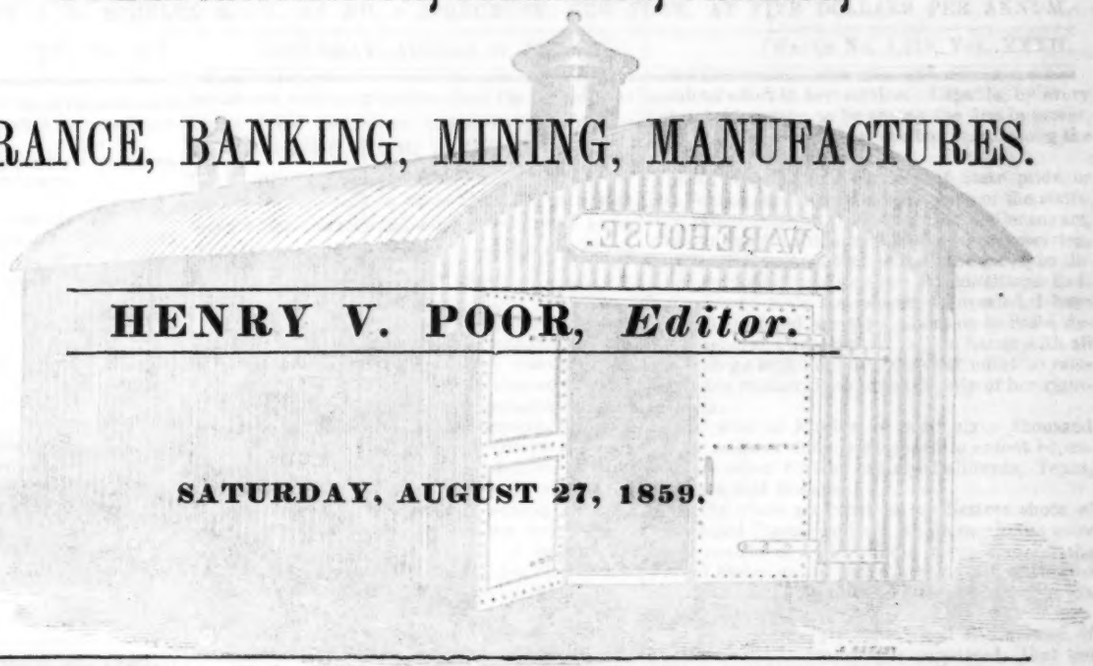
AMERICAN
RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, FINANCE,

INSURANCE, BANKING, MINING, MANUFACTURES.



HENRY V. POOR, *Editor.*

SATURDAY, AUGUST 27, 1859.

Second Quarto Series, Vol. XV., No. 35.---Whole No. 1,219, Vol. XXXII.

ESTABLISHED IN 1831.

NEW-YORK:

PUBLISHED WEEKLY, BY

JOHN H. SCHULTZ & CO.

Front Room, Third Floor,

No. 9 Spruce Street.

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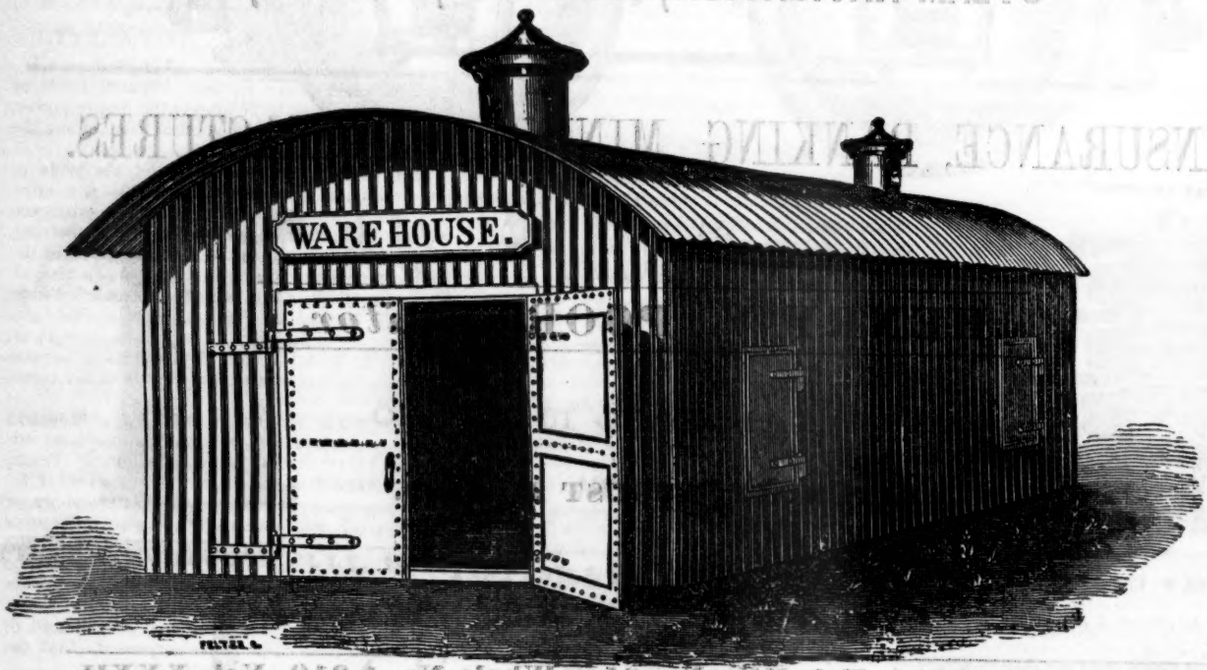

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☞ MESSRS. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, LONDON, are the authorised European Agents for the *Journal.*

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO. No. 9 SPRUCE ST.

New York, Saturday, August 27, 1859.

Florida and Its Internal Improvements.

It is well known that the State of Florida has, for several years past, been making rapid progress in the construction of an extensive system of railroads, and one entirely adequate to the wants of her people. In devising this system in the outset, and in securing its adoption by the Legislature, the Hon. D. L. YULEE, U. S. Senator from that State, was chiefly instrumental. After its adoption, he assumed the presidency of the great line extending across the neck of the Peninsula, upon the route so much discussed in passed times, in reference to a canal. This road, under his able management, has now nearly reached its completion. To testify their high appreciation of his efforts and those of his associates, in securing the construction of this road, and in promoting the welfare of the State, the citizens residing in the vicinity of Archer Station, on the road, invited the officers of the company to a grand *barbecue* which took place on the 14th ult. Mr. Yulee was unable to be present, but replied to the committee at considerable length in a letter, the greater part of which we copy, and which is better fitted to excite our admiration, and will prove a lasting monument to his reputation, than the services he has rendered the people of the State in securing the construction of their magnificent system of public works; as the ends sought to be accomplished far outweigh, in value, the material advantages which the railroad will secure. The letter should have a public record in the history of the internal improvements of the State.

FERNANDINA, July 12, 1859.

GENTLEMEN:—You invite me to a barbecue entertainment to be given by the citizens of your neighborhood, to the officers and friends of the Florida railroad, at Wacahoota station, on the 14th of this month. This gratifying demonstration of sympathy in the efforts of the company, is highly valued by all who are connected with its administration, and in their behalf I tender grateful thanks. To me it is particulary pleasing, from the circumstance that I number among the citizens of your vicinage, some of my longest and most respected personal friends. I very much regret that imperative engagements disable me from enjoying a meeting with you on the day appointed.

There are one or two features in your letter of invitation, which strike upon my attention most pleasantly. I wish to express the special satisfaction I derive from it. In the forshadowing it gives, I see a happy augury for the future of our State. In your populous and influential district of country, citizens, as you say, "*of both political parties*, waiving all personal differences," united in this movement. And the influence which produced this spontaneous union was *a common sympathy in the progress and prosperity of the State.* It points to a coming gathering of all who are for *progress*, upon a platform of State policy directed to that end.

Has not the time now reasonably come for a general fraternization upon domestic questions? Why may we not turn our minds to our home interests, too much heretofore neglected? Why not rally to the service of the State, all of goodness and of intellect, and of energy, which she holds? Too long have some of the ablest minds of the State been obscured, and their talents lost to her use, by the inexorable necessities of severe party division. These necessities no longer pressingly exist. May we not now assemble around our State altar and joining hands once more as brothers, move together, with a new spirit, in a united effort to make this a happy home for ourselves and our children. The noblest emulation in which we may all engage is to do most to advance the moral and material greatness of our State, to adorn her borders, and to elevate her name.

Never did a State more need combined and harmonious effort in her service. Capable, by every natural advantage, to be among the first in power, usefulness, and influence, she has been among the last in all these respects.

Who of us, with one spark of State pride or just feeling, could review the results of the statistical tables collected in 1850 under the Census act, without mortification, and without also resolving, as a first duty of all true sons of the State, to devote every energy to improve her condition. Sadly impressed with the picture it revealed, I have since then turned my chief attention to State development, and am anxious to join hands with all who can go with me, in a devoted effort to raise our noble mother State to the dignity of her rightful rank.

The area of Florida is near sixty thousand square miles—which is exceeded in extent by only four other States, namely California, Texas, Virginia, and Missouri.

Of the whole sea coast of the Eastern shore of the United States, we have within our limits *more than one-third.* The whole coast line of the United States on the Atlantic and Gulf of Mexico is 3,020 miles of continental line, of which Florida has 1,146 miles.

In point of health Florida stood at the head of all the Southern States, only surpassed, (that too very slightly,) by three Northern States.

In woods, the most valuable cover its whole extent. The Live Oak, the Cedar, the White and Red Oaks, the Cabinet Woods (Red Bay, Magnolia, etc.,) and the best Yellow Pine, for lumber and naval stores, abound in almost inexhaustible quantities, conveniently placed for commerce.

The variety and value of our agricultural capability as a State is altogether unsurpassed in the Union. In suitableness for Upland Cotton equal to any other, and surpassing immeasurably all others in adaptedness to the richest of all staples, the Sea Island Cotton, the Sugar, the tropical Fruits, and early market Vegetables.

Around the shores of the State passes the largest commerce of the continent estimated to exceed five hundred millions of dollars annually.

It is the only State of the Union which has a shore upon the Gulf of Mexico as well as Atlantic, and we control the useful access of other Atlantic States to the Gulf. We possess innumerable harbors upon both shores, of various capacity, and equal to the requirements of any amount of commerce.

With all these great elements we should be among the first in commerce and wealth, in agriculture and the mechanic arts, in population and social development.

How is it with us? Alas, I am almost ashamed to draw the picture of our comparative inferiority.

Organized as a Territory in 1821, during that

long period of 30 years which intervened to 1850, the white population of the State had reached only to forty-seven thousand, being only twenty-nine thousand more than we had in the census of 1830. Of that forty-seven thousand, about twenty thousand were born in the State, showing an immigration in 30 years, from 1821 to 1850, of only twenty-seven thousand. With an area of about 60,000 square miles, we had twenty-four thousand fewer inhabitants than Delaware, which has an area of only 2,120 square miles, and *ninety-six thousand* less than Rhode Island, which has only *one thousand three hundred and six square miles!*

In the table of relative rank of population Florida stood *least*, and so low, that having fewer than the ratio established by law, we suffered the mortification to become entitled to a representative in Congress, only by the forecast of the Constitution, which provided that each State should be entitled to one representative without regard to population.

There was not a city in the State which reached a population of twenty-five hundred.

There was not one canal in the State, nor one mile of railroad upon which a locomotive could be run.

We were the lowest but one (Arkansas) in manufactures, &c.

We were the lowest but one (Delaware) in aggregate wealth, even including the value of slaves; and were the lowest in State revenues.

In moral and social condition, the contrast with other States was equally sad.

In the number of churches, greatly the lowest. In the value of church property, lowest but one (Arkansas). In the number of churches compared with white population, the lowest of all.

In the number of public and private schools, to the square mile, we were greatly the lowest; and in the per centage of children at school, *as compared with population*, we were much below every other.

Nearly one-fifth of the white population of the State, over twenty years of age, were unable to read and write.

In colleges, theological, medical and law schools, so utterly were we deficient, that Florida was altogether omitted from any place in the table.

Not one daily newspaper was printed in the State, and in the number of papers of all kinds circulated, in proportion to white population, we were among the last.

In the number of libraries, and of volumes of books, we were greatly below every other State.

It is no pleasant task to array the results exhibited in that year; but it is the part of wisdom to look fairly in the face our true condition, that we may better appreciate the task before us.

We *can* place our State among the first in power and influence, and we ought to do it.

I trace the whole of our then comparative inferiority in public prosperity, to the lack of that public spirit and enterprise which was necessary to keep us up with the spirit of the age. While other States had been generously and courageously at work to develope all their resources, and to foster their natural advantages, we, abounding in the elements of wealth, had rested supine. Other States, seizing at once upon the instrumentalities of progress which modern science has furnished, and made useful to their people all the advantages of their position. With the best position for commerce, we had no commerce. With the best soil and climate for profitable agriculture, we had fewer inhabitants to the square mile than any other State. With a geographical relation to the Union which entitled us to be central in the intercourse between the seaboard States, we have been isolated and obscure.

There is, in proportion to numbers, an unusual amount of intellect and energy in the population of the State; but we had failed to cultivate that PUBLIC SPIRIT and STATE PRIDE, which would direct it in the channels of STATE PROGRESS. This may be well excused, and is fully accounted for, by the effects of the harrassing and protracted Indian hostilities that devastated and disquited the State, and by the diversified nativities of our population, which has required time for coalescence.

Now, however, within a few years past a change has been working, which it is our true policy to cherish, and which will place us in the next census upon a prouder footing. The State has started upon a new career, and the noise of what she is doing, is already beginning to be heard abroad. What has already been achieved may well encourage us to go on.

The electric wires have penetrated to us in the West and East, and soon may meet together across the length of the State.

Roads are progressing in various directions, which will connect all the best harbors on the Gulf with those of the Atlantic, and furnish avenues for every various need of commerce.

Agriculture has caught the spark of improvement, and the products of our fields are daily increasing.

Our cities are advancing in their improvements, and new towns are springing into existence with an elasticity that evidences the progress we are making.

And in all social respects the advancement is equally evident.

Let us proceed, with courage and animation, to force through our own territory, the tide of intercourse between the Gulf and Atlantic States, by furnishing it with better channels than any other now employed upon the land or upon the water.

Let us enable our planters to combine easy access to the cheapest provision markets on the one hand, and the best cotton and sugar markets on the other, and thus induce occupation of our soil.

Let us build up our own seaports to furnish the convenience and protection of a home market for our produce, and to supply the financial agencies necessary to our further more rapid improvement.

Let us prepare to use the wealth which will thus come to us, in advancing our moral and social condition as a community, by building up colleges, and providing a generous system of public schools.

Let us resolve To PROGRESS.

For one, I am enlisted to do yeoman's duty in all that can promote the moral and material growth of the State.

I am for completing the system of improvements now begun, *by whatever aids may be necessary.*

I am for dedicating the magnificent fund which a wise administration of the Internal Improvement Fund will create, to *Education;* and in the meanwhile, I am for a generous system of public schools at public cost.

I am for advancing *by an active and positive policy* the social and industrial condition of the State.

I am for *Progress*, and will join efforts with all who are laboring in the same direction.

I beg leave to repeat, and to beg you to repeat with me over and over again: Let us resolve To PROGRESS. Your respectful servant,

D. L. YULEE.

South-West Branch of Pacific Railroad.

We are authorized to state that at an adjourned meeting of the Board of Directors of the Pacific Railroad, held on Friday, August 19th, the Chief Engineer was directed to commence forthwith the heavy sections lying between DILLON'S and the Gasconade river. These are four in number, and are known as sections 73, 78, 81 and 83.

At a previous meeting, the Board authorized the commencement of the work between KINSEY'S and DILLON'S, to which latter point, one hundred and nine miles from St. Louis, it is intended to lay the rails during the present year, unless delay should arise from unforeseen circumstances. This work has been commenced, and will be prosecuted energetically.

The heavy sections now authorized, may be urged until next spring before the lighter graduation in their vicinity need be commenced.

The rails are now laid from St. Clair nearly to Stanton; and although some unexpected detention has occurred in their transportation from New York, they are now arriving rapidly, and the graduation is so far advanced that the superstructure can be laid down hereafter continuously, and without delay.—*St. Louis Republican.*

Cincinnati, Hamilton and Dayton Railroad.

The financial exhibit of this company for the year ending March 31, 1859, was presented to the stockholders at their annual meeting held in Cincinnati May 3d, last. From this we learn that the gross earnings from operations of their road during the year were:

From passengers		$212,645 53
" freights		235,119 47
" mails and express		17,617 95
" rents of track, machinery, etc.		21,720 79
" interest, and profit and loss		2,334 18
		$489,437 92

And the expenses were:—

Maintenance of way	$47,540 66	
" motive power	65,298 69	
Train expenses	44,873 43	
Station "	41,627 08	
Office "	21,273 83	
Machine shop	3,762 33	
Miscellaneous	15,395 41	
		239,771 43
Leaving net earnings		$249,666 49
Less interest on bonds	$99,627 38	
Taxes for six months	5,314 99	
		104,942 37
Surplus income		$144,724 12
Compared with the previous year, the gross earnings show an increase of		$2,016 65
The decrease in expenses was		31,762 10
And the increase in net income		$33,778 75
In the subjoined balance sheet, the assets of the company are stated at		$167,178 60
And the current liabilities at		83,910 28
The excess of assets being		$83,268 32

—a large portion of which being unavailable for several months, it was deemed prudent by the board to pass the dividend, hoping within the ensuing six months to be able to resume the payment of them and have a surplus sufficient to guard against any future failure.

Nothing had been charged to construction account during the year. The floating debt of the company had been reduced to $24,075, with cash on hand to meet the same at maturity.

The report made to the stockholders, at their semi-annual meeting in October last, showed that the company had invested in depreciated railroad stocks and bonds of connecting roads, the sum of $305,076 10. In accordance with the recommendation of the committee appointed by the stockholders at their last annual meeting, the undivided net earnings to March 31, 1859, have been credited to this and other bad and doubtful accounts, thus wiping out the total amount of subscriptions to connecting roads, and bringing the stock of the company to par on their books, after deducting sufficient of the assets to pay all outstanding liabilities. The balance remaining to the debit of stocks and bonds, is $28,747 26, which is estimated to be worth that sum.

The company own 22 locomotives; 26 first class, 2 second class, 8 mail and baggage, 223 freight, 91 platform, 21 cattle, and 79 gravel and hand cars.

During the year, 132 tons of rails have been renewed, 15,385 cross-ties, 13,292 lbs. of spikes, 18,279 lbs. of chairs, and 18,986 ft. of lumber for culverts and fencing. From 500 to 700 tons of rails are now required to replace those worn out.

Condensed Balance Sheet.	Dr.
Capital stock	$2,155,800 00
1st mort. bonds, due 1867	461,000 00
2d mort. bonds, due 1880	950,000 00
Interest on 1st mortg. bonds	525 00
Do. 2d do.	5,425 00
Unpaid dividends	2,592 95
Bills payable	24,075 00
Due R. R. Companies	31,661 68
Due individuals	8,296 33
Pay-roll, March	11,334 32
	$3,650,710 28
	Cr.
Construction	$2,648,296 38
Equipment	504,892 35
Real estate	266,198 85
D. & W. R. R. bonds	26,000 00
Cin., Ham. and Dayton R. R. stock	2,247 26
Middletown Bridge stock	500 00
Wood and material for repairs	35,396 84
Bills receivable	54,253 66
Due from Railroad Companies	17,429 18
Do. Individuals	12,351 02
Do. P. O. Department	3,603 25
Cash and cash items	79,541 49
	$3,650,710 28

The officers of the company are:—

S. S. L'Hommedieu, *President*, Cincinnati.
Geo. Carlisle, *Vice President*, do.
Lafayette Banking Company, *Treasurer*.
Frederick H. Short, *Secretary*.
Daniel McLaren, *Superintendent*.

Cleveland and Toledo Railroad.

The gross earnings of this road for the fiscal year ending April 30, 1859, were:

From passengers	$485,537 45
" freight, mails, etc.	312,618 20
	$798,155 65

And the expenses were:

Repairs of road	$78,129 36
" locomotives	24,674 93
" cars	39,594 37
" bridges	2,216 52
" buildings, etc.	8,446 78
Taxes	19,705 76
Fuel	34,461 16
Oil and waste	7,764 94
Wages	117,809 77
General Superintendent	29,897 66
Contingencies	16,597 73
Miscellaneous	7,400 75
	383,699 73
Leaving net earnings	$414,455 92

Compared with the previous year, the gross earnings show a decrease of $132,096 81
The operating expenses a decrease of 112,762 28

The net loss being only $19,334 53

The number of passengers carried to all points on the road, was 279,225, being a falling off from the previous year of 66,559. The tonnage account shows an increase of 2,527 tons, but a loss of $29,363 in freight earnings.

Of the above expenditure for repairs of road, $12,377 88 was for repairs on the double track between Cleveland and Grafton, leased from the C., C. & C. Co. The track is represented as being in very fair condition. During the year, 39,106 new cross-ties have been laid on the Southern division, 231 tons re-rolled iron, 6½ tons spikes, and 3,427 rails repaired. In the Northern division, 7,000 new cross-ties, 3 tons spikes, and 1,494 rails repaired. The rolling stock is also in good order, 9 new stock cars have been built, and 3 coaches, 1 second class and 1 baggage car re-built. The equipment now consists of 32 locomotives, 42 passenger, 10 second class and emigrant, 4 mail, 13 baggage, and 413 freight and gravel cars.

Three small bridges of a permanent character will be required on the southern division during the present season, the estimated cost of which will be about $9,000.

The financial position of the company remains about the same as at the date of the last statement. The interest on the bonded debt has been paid, and the obligations of the company met promptly at maturity.

There has been appropriated to the sinking fund by the company during the past year the sum of $12,285 52, and there has been purchased by the commissioners $25,705 of the bonds of the company, making the total amount of the company's bonds purchased for the account and benefit of the sinking fund to this date $91,860, in addition to which the Commissioners hold the company's note on demand for $4,741 10 for coupons due and surrendered.

There is an arrearage due from the company January 1st, 1859, of $25,524 89 on the sinking fund account. A gradual exchange of the outstanding bonds of the company, for the sinking fund mortgage bonds, has been going on, during the year, so that at the present time the outstanding bonded debt includes $640,000 of said bonds.

The outstanding bonds of the company are as follows:—

Junction,	1st mort.	1st div. b'ds,	due 1867.	$377,000
Do.	1st mort.	2d div. do.	1872.	305,000
Do.	2d mort.	do.	1862.	324,000
T. N. & C.	1st mort.	do.	1863.	522,000
Do.	2d do.	do.	1863.	299,600
Junction,	Income,	do.	1862.	61,500
Do.	Lloyd's,	do.	1862.	5,000
C. & T.	Income,	do.	1863.	192,950
Do.	do.	of July, 1854, do.	1864.	409,900
Do.	do.	of Sept., 1854, do.	1864.	373,000
Do.	dividend	do.	1865.	199,735
Do.	dividend certificates,	do.	1865.	4,935
Do.	income,	do.	1870.	129,000
Do.	sinking fund mort.	do.	1885.	640,000
				$3,842,720

CONDENSED BALANCE SHEET.

	Dr.
Capital stock	$3,343,812 50
Bonded debt (as above)	3,842,720 00
Bills payable	358,605 64
Unpaid approved bills	16,176 15
Unpaid on pay rolls	745 43
Dividends not called for	2,308 00
Unpaid accrued interest on bonds	9,170 99
Miscellaneous unsettled accounts	20,384 66
Receipts in May, not adjusted	35,698 71
Income account to balance	229,296 01
	$7,858,918 09
	Cr.
Stocks and bonds owned by company	$258,423 94
Bills receivable	75,712 86
Real estate	33,752 63
Materials on hand	112,119 69
Due company from transportation accounts	18,960 39
Cash	20,116 90
Sinking fund	60,567 37
Collectable accounts	2,804 59
Equipment	458,194 59
Construction	6,729,056 93
Miscellaneous accounts	89,208 20
	$7,858,918 09

The officers of the company are:
J. B. Waring, *President*.
H. C. Lugh, *Treasurer*.
L. D. Rucker, *Superintendent*.

Cleveland, Columbus and Cincinnati R. R.

The income of this company for the year ending Dec. 31, 1858, was derived from the following sources, viz:—

Freight	$638,460 62
Passengers	343,732 18
Express and mails	43,173 04
Rents and lease of track	76,607 56
Interest on deposits, and other sources	11,666 60
	$1,113,639 95

The expenses for the year were:

Repairs of track	$126,853 82	
" locomotives.	48,451 17	
" cars	59,594 67	
" buildings & bridges, etc.	12,714 73	
Fuel	44,998 26	
Oil and waste	11,146 09	
Taxes	10,878 86	
Conducting transport'n.	194,332 49	
General expenses	18,134 14	
Interest and exchange	8,256 73	
Loss and damage	13,119 75	
		538,480 71
Net earnings		$575,159 24
Compared with 1857, the earnings show a decrease of		$36,101 44
And the expenses a decrease of		96,520 36
Making an increase in net earnings of		$60,418 92

The reduction in gross receipts was chiefly in the passenger traffic, and is ascribed mainly to the general depression of the business of the country. The small increase in revenue from tonnage was not in keeping with the increased amount carried; this is attributable to the excessive competition of rival lines.

Although a large saving has been effected in the operating expenses, due regard has been paid to the condition of the road and its equipment—the motive power of which has been much improved, while the cars were kept in equal good condition.

The bonds of Franklin Co., assumed by this company, which fell due in January last, were paid. This leaves the company with only $38,000 bonded, and no floating debt.

The assets and liabilities of the company on the 1st of January, 1859, were as follows:—

Assets.	
Roads and depots	$4,087,570 62
Equipment	684,954 94
Columbus and Xenia R. R. stock	5,550 00
Bellefontaine & Indiana R.R. stock, $66,800—value	6,680 00
Indianapolis and Bellefontaine R. R. stock, $70,000—value	1,050 00
Steamboat stock, $54,000—value	7,500 00
Bellefontaine and Indiana Railroad bonds, $2,000—value	1,200 00
Indianapolis, Pittsburg & Cleveland R. R. bonds, $6,000—value	4,350 00
Columbus and Xenia R. R. bonds	800 00
Delaware County bonds	6,000 00
Land not used for roads and depots,	10,292 67
Loan to Cleveland and Mahoning R. R. Co.	24,000 00
Materials on hand	110,068 02
Due from joint account with C., P. & A. R. R.	$25,385 01
Due from agents and other companies	40,027 45
Due from P. O. Depart.	7,099 35
Bills receivable	49,927 09
Cash in hands of paymaster	4,283 10
Cash in h'nds of treasur'r.	266,537 56
	393,259 56
	$5,343,275 81

LIABILITIES.

Capital stock		$4,746,100 00
Convertible bonds due Dec. 1, 1859,		38,000 00
Dividends uncalled for	$7,995 40	
Due other companies	246 89	
		8,242 29
Dividend No. 15, payable Feb. 1, '59		237,305 00
Surplus earnings		313,628 52
		$5,343,275 81
Gross earnings for 1858		$1,118,689 95
Expenses for all purposes		538,480 71
		$575,159 24
July dividend paid, August 1, 5 per cent.	$237,305 00	
Jan'y dividend paid, Feb. 1, 5 per cent.	237,305 00	
		474,610 00
Surplus earnings for 1858		$100,549 24

The officers of the company are :—

L. M. HUBBY, *President.*

E. S. FLINT, *Superintendent.*

P. KIDDER, *Chief Engineer.*

T. P. HANDY, *Treasurer.*

Boston and Maine Railroad.

The report of this company for the fiscal year ending May 31st, 1859, has been issued, from which we learn that the receipts during that time were :—

From passengers		$465,181 09
" freight		327,668 27
" rents		7,076 09
" mails		9,616 57
" interest		9,139 20
		$818,681 22

The expenses were :—

Running Expenses.

Repairs of road	$69,963 20	
" bridges	18,334 00	
" fences, gat's, etc.	2,863 25	
" station build'gs, fixtures and furniture	20,193 83	
" locomotives	28,440 34	
" cars of all kinds	19,057 97	
Removing ice and snow	853 53	
Switchmen, gatemen, etc.	19,128 81	
Passenger expenses	56,127 74	
Freight do.	56,545 11	
Wood	48,905 43	
Sawing wood and pumping water	14,187 69	
Oil	6,305 55	
Waste	1,569 30	
Horse power	9,233 37	
Damages and gratuities	7,368 79	
Coal for locomotives	250 00	
		379,327 91
		$439,353 31

Other Expenses.

General expenses, being salaries, law expenses, etc.	$17,387 27	
Taxes, (estimated)	11,833 27	
Insurance	2,975 07	
Rent of Danvers railroad	7,500 00	
		39,695 61
Net, after deducting expenses		$399,657 70
Charged for renewals of iron	$21,845 47	
Do. for depreciation of locomotives and cars	7,590 00	
		29,435 47
Net, after deducting expenses and depreciation and iron		$370,222 23

The company owe no permanent debt; nothing but the monthly balances between it and other companies. Its capital account, $407,697 41, is represented entirely by stock. The construction account is made up as follows :

Graduation and masonry	$882,067
Wooden bridges	371,469
Superstructure, including iron	984,524
Stations, buildings, etc	520,723
Land, land damages, and fences	815,837
Engineering and other expenses	272,388
Locomotives	173,780
Passenger and baggage cars	60,695
Merchandise cars	133,882
Total cost of road and equipment	$4,215,361

The cash debt of the company, $50,000, owed to the commonwealth, contracted 20 years since, and due August 1, 1859, was paid out of the surplus earnings in October, 1858, 10 months before it fell due.

The dividends paid the past year equaled 7½ per cent.

The undivided earnings of the road, at the close of the fiscal year, amounted to $428,930, consisting of cash, and cash balances, of $98,567; due from other roads, $104,418; value of road and materials on hand, $87,555; and $138,391 invested in construction and equipment.

This company is one of the most prosperous of the Massachusetts railroads. Its cost has been moderate, and it has been prudently and economically managed. Its earnings average about 20 per cent. annually upon its cost for 18 years past. The company has paid, annually, dividends which have averaged 6.83 per cent. In the meantime, the construction of the road has not increased since 1855. The road by this time may be well considered as a safe investment of capital.

The officers of the company are :

President—FRANCIS COGGSWELL.

Treasurer—H. B. WILBUR.

Superintendent—WM. MERRITT.

South-Western Railroad.

The earnings of this road for the fiscal year ending July 31st have been—

Earnings from freight	$339,073
" " passengers	193,293
" " carriage of mails	15,510
Total	$547,876

The current expenses were—

For repairs of road	$43,137	
For materials for same	14,514	
For tools, subsistence, etc.	19,308	
For fuel for locomotives	6,555	
For water do.	3,365	
For repairs of buildings	549	
For do. locomotives	15,396	
For wages of enginemen and firemen	22,623	
For oil and waste for locomotives	2,116	
For repairs of cars	17,076	
For oil and waste for same	925	
For salaries, train expenses, etc.	45,729	
Paid for damages to goods, etc.	2,673	
Commissions to station agents	6,497	
Incidental expenses	9,747	
Total current expenses		210,107
Net earnings		$337,769

In addition, expenditures of a permanent character to the amount of $55,538 were made for the following objects.

New buildings	$3,780
New passenger cars	5,950
New freight cars	14,163
For locomotive engines	20,743
Construction tools, etc., etc.	10,902
	$55,538

The total ordinary and extraordinary expenses were $265,645,—leaving as net earnings $282,230.

The stock of the company 1st August, inst., as shown by the Treasurer's balance sheet, amounted to $2,254,000

The stock earned, and to be earned by contractors, will amount to 246,000

At the completion, the stock will be $2,500,000

The bonds of the company, as shown by the same balance sheet, on 1st August inst., amounted to $631,000

The bonds earned and to be earned by contractors, will amount to 130,000

At the completion, the bonds will be 761,000

There should be added to the amount of bonds, for cash to be thereby raised, as shown hereafter, the sum of $139,000. So when the road shall have been finished, the capital stock will be $2,500,000, and the bonded debt of the company will be $900,000, making together $3,400,000. To pay the interest on the bonds and dividends at the rate of eight per cent. per annum, the annual sum of $263,000 will be required.

The total length of main line open, is 162½, to be increased 44 miles by its extension to Fort Gaines on the Chattahoochie river, and to Eufala from Cuthbert station. There were opened the past year 20½ miles. The number of miles in use averaged 147.

The number of miles run by the past year were 171,758. Freight and other trains 93.109; making a total of 264,867. The number of cords of wood used was 2,684, being an average of one cord to 98¾ miles run, at a cost of 2.28 cents per mile.

The whole line is to be completed the coming year. The total amount expended on the extension from Southville has been $845,289, and the total estimated cost of the same to Eufala and Fort Gaines is $1,462,220.

In conclusion we make the following extracts from the Report of the President :—

The table of work done and to be done on the extension, annexed to the Chief-Engineer's report, shows that there is yet to be expended the sum of $650,000 to finish the road. Of that sum of $650,000, there will be payable in cash, $407,000; the remainder will be payable in bonds and stock of the company. The funds received for extension of road, have, during the progress of the road, yielded an interest amounting to $59,629 13. It has not been found necessary to use it in aid of dividends hereafter. The extension fund now is $116,782 97; if we add the above item of interest, $59,629 13, the cash fund for extension will be $276,412 10; and if bonds to the amount of $130,000 be sold, there will be raised the sum of $406,412 10, the amount of cash necessary to complete the road.

As the income of the company for the year just ended after paying an *extraordinary* expense of $55,538 35, has been $282,230 20, there cannot, in the opinion of the Board, be any doubt whatever of the ability of the company to pay regularly to the stockholders at least eight per cent. per annum. It is, certainly, reasonable to expect that the net income of the road for this current year, after the payment of ordinary expenses, will be $350,000—a sum sufficient to pay all interest, and dividend of eight per cent., and leave $90,000 at least to meet extraordinary expenses.

The future of the company, then, is full of promise. At the end of another year, we shall be at an end of our labors in road-building. We shall have a railroad 206½ miles long of main line, and 14¾ miles of sidings, well equipped and furnished with depots, and other necessary appurtenances. The Capital stock of the company, and

its bonded debt together, will not exceed $3,400,000. The road and equipment, however, will have cost more than $3,400,000. Its present cost, as shown by the Balance-sheet, is near $280,000 over and above the aggregate of the stock and bonded debt; the difference has been paid out of the general earnings of the company. These general earnings, after paying dividends of eight per cent. per annum and interest on bonds, will still go in aid of finishing the road. When the road is finished, or at the beginning of the next fiscal year, (August, 1860,) it will be the duty of the Board to consider the propriety of issuing stock by way of dividend to stockholders, to such an amount over $3,400,000 as the value of the property may exceed that sum. That the property can be placed at more than $3,400,000, and still pay a certain dividend of eight per cent., seems to this Board, very clear. How far the value may exceed $3,400,000 can, in August, 1860, be determined with accuracy and safety. The stock of the company, which was at the last report of the Board depressed, has since risen in the markets of Savannah and Macon, to within a trifle of par. That it will soon command a premium, and be a favorite means of investment, is as certain as that capitalists will take the pains to acquaint themselves with the condition and future prospects of the company.

It has not escaped the notice of this Board, that the people in various sections of our State, and more especially in the Southern portions of it, have, of late, been much excited in their desire to have new railroads. The success of the roads already built has tended to stimulate those desires, until almost every citizen seems to wish a railroad running by his own door. The system of railroads in Georgia now existing, and yielding fair remuneration to stockholders, may be briefly described as follows:

The city of Macon, which is very near the centre of the State, is the centre of the railroad system of Georgia. From Macon, lines of railroad run South-eastwardly to Savannah, and North-westwardly to Chattanooga, making a continuous railway from the Atlantic seaport of the State to the river Tennessee at Chattanooga. Another line (the South-western Railroad) runs from Macon to Albany, Fort Gaines, and Eufaula; another line connects Macon with Columbus; another connects Macon with Augusta, and another with the Chattahoochee at West Point. Macon is also connected by rail with Eatonton, a point twenty-two miles south of Madison, on the Georgia Railroad. The Georgia Railroad runs from Atlanta to Augusta. The Savannah road and Main Trunk make a line from Savannah through the Southern border of the State to Bainbridge and the Chattahoochee. There is a line from the Georgia Railroad, leading from Union Point to Athens, and there are short roads leading to Rome, to Washington, and to Thomaston. Such is the general system at this day. If the short road from Eatonton to Madison is built, and the system be extended from Athens to Rabun County, and the South-western Railroad line be carried to Bainbridge, the extreme South-eastern part of the State, the North-western corner, the South-western and North-eastern corners—in a word, the four corners of the State—will be united by railroads—all passing through the centre at Macon. The lines passing across the State—to wit, from West Point to Augusta, and from the neighborhood of the junction of the Flint and Chattahoochee to Savannah, with such a connection of the four corners as is indicated above, would seem to be enough to develope the State, and to gratify the most ambitious mind. A more perfect system of railroads could not be found in any State of the Union.

But the extraordinary spectacle is, at this day, presented to the people of Georgia of projects for three additional roads leading from the interior towards the sea—namely, from Macon, from Fort Valley, and from Albany; and the projectors of these roads openly confess that the people who desire them cannot furnish all the means to build them, and, therefore, look to the State for aid. These projects, founded upon the hope of State aid, disturb the minds of some of the stockholders in this company, and, therefore, demand the notice of this Board.

No one can, even plausibly, deny these two propositions:

1st. The country between Macon, Fort Valley, and Albany, on the upper side, and Savannah, Brunswick, and the Main Trunk line, on the lower, cannot support these lines of railroad, in addition to the Central and the Main Trunk and Savannah lines; such three additional roads are not necessary to develope the resources of Georgia.

2d. The projectors of each of the three lines of road, are equally entitled, if entitled at all, to the aid of the State; Macon has as much right to ask State aid as Albany, and Albany as much as Fort Valley.

Such three lines of railroad, if built, would be antagonistic, each to the other; Albany would seek to draw everything South of Oglethorpe away from Macon, an operation which Macon would seek to prevent. Fort Valley could not possibly have any interest which was common to Albany, or to Macon. These three projected roads were started for Brunswick, ostensibly; but already, the signs are plain that they will, if built, lead to Savannah. Savannah being an established cotton market, and having perfect connections, by steam and sail vessels, with Northern ports and with Europe, would draw all the business of the country, in opposition to Brunswick, where there is no market, no capital, no population, no ships, no trade.

It will soon be apparent that the railroad line from Savannah to Thomasville, Bainbridge, &c., will cut Brunswick off from all the interior trade. This will be proven when the Brunswick and Florida Railroad Company shall have completed their line of sixty-seven miles, from Brunswick to McDonald, the point of junction with the Main Trunk. The Main Trunk is likely to reach Thomasville before the Brunswick road shall reach McDonald. The cars, with goods and produce, will pass through McDonald, between Thomasville and Savannah, without contributing anything of moment to the Brunswick road. The difference in distance between Thomasville and Brunswick and Thomasville and Savannah, is too trifling to give Brunswick an advantage; the advantages of Savannah, as an established market and port, must necessarily control the business. And so any road from the interior, striking the Main Trunk at any point, would carry for Savannah—not for Brunswick; hence it will be seen that all surveys of roads will be to the initial point, and the three roads, or any of them, will be Savannah roads, and not Brunswick roads. The road from Macon to the initial point, will be a competing road to the Central; and roads from Fort Valley and Albany would also be competing roads to the Central, whilst they would be also competing roads to the Macon road, and competing with each other.

In view of the considerations thus presented very briefly, the question may be asked, Is it probable that either of the three projected roads will be built? All, surely, cannot be built—all cannot obtain State aid; for the representatives of the people would never be guilty of the folly of giving aid to one line of road, and then giving aid to another line to compete with the first. Who will get State aid? Shall it be Macon, or Fort Valley, or Albany? The conclusion at which this Board has arrived is, that as the country requires no such roads—and as the projectors of them must, on due examination, be satisfied that such roads, if built, cannot pay, there is no likelihood of the completion of any line either from Macon or from Fort Valley, or from Albany, to the Main Trunk, or the initial point. But if the Board is wrong in that conclusion, they feel very confident in this opinion, that all the business which the South-western road commands now, will be received by it in the future. If competition from any quarter shall come, the tendency may be to a reduction in rates, but compensation will be found in the increased quantities of transportation, as the country generally progresses. The people of Savannah, who own the greater part of the stock of this company, own also the greater part of the stock of the Central Railroad line. Their friendship, therefore, towards our road, can be certainly calculated on.

The Coal Trade of Pittsburg.

Mr. Thurston, the Secretary of the Pittsburg Board of Trade, estimates the "coal mined in the vicinity of Pittsburg," in 1858, at 81,771,229 bushels, or 3,308,849 tons. This the Philadelphia *Mining Register* disputes, as being "enormous," and says:

Our accredited aggregate for 1858 of 1,142,278 may be somewhat under the genuine aggregate of the entire coal trade of Pittsburg for that year; but that the genuine agrregate, if ascertained, would represent the quantity put down by T., to wit: 3,308,849 tons, or near one-half that quantity we have not the remotest belief.

And, in expressing this opinion, we have not the least intention to underrate the magnitude of the coal trade of Pittsburg, which is a stupendous and magnificent trade, even when limited to its real totals; our sole purpose is to discourage a practice of exaggeration, in many cases unintentionally indulged, no doubt, yet which, even by this occasional exercise, tends to bring reproach and discredit upon the entire department of statistical matter.

The *Register* suggests that the true way of arriving at the actual figures is to ascertain the amount really received here from all sources—by river and by rail—and the amount used for manufacturing and local purposes, and thus show in the aggregate, the amount mined within the region near the city. Noting the wide difference between the two estimates, and believing the one as much too high as the other is too low, we have put ourselves to some trouble in hunting up statistics on the subject, and they justify our convictions on the subject. The amount consumed for domestic purposes cannot be ascertained, positively. In the city proper, all the coal sold to domestic consumers is sold by weight, and is weighed upon the city scales. This does not include coal delivered on continuous contract to manufacturers and other large consumers, the city ordinance exempting all coal so delivered from its operations. In the returns made by the weighmasters at these scales for the year 1858, we have, therefore, the amount of coal delivered to domestic consumers during that period within the nine wards of the city. This amount, according to figures obtained at the Comptroller's office, was 2,669,720 bushels. Outside of the city, coal is delivered by the measure of the vehicles delivering it, of which no record is kept; but as the population outside is about equal to that of the city proper, we set down the domestic consumption at the same as the city proper, making the total 4,339,440 bushels.

The amount consumed by manufactories, we are enabled to learn pretty correctly by the statistics contained in Thurston's "Pittsburg as it is." From that we learn that in 1857 the rolling mills consumed 6,187,515 bushels; the glass factories, 2,820,668 bushels; and the other factories of various sorts, 3,847,584 bushels. There has been an increase since then, both in the number of factories and the amount consumed; allowing 1,000,000 bushels for the amount used by steamboats, gas factories and water works, and we have a grand total of 14,855,767 bushels used in manufactures, &c.

The Monongahela Navigation Co. brought down in 1858 25,696,669 bushels, of which 21,871,569 bushels were for export below. There was also shipped in boats and barges, from below the dams of the Navigation Co., 3,291,666 bushels, making the total shipped below, 25,163,235 bushels.

In addition to these totals, the Pittsburg, Ft. Wayne and Chicago R. R. Co. carried west from the city, during 1858, 22,250 tons; the Pittsburg and Cleveland R. R. carried west, 28,885 tons; the Pennsylvania R. R. carried east, (not exactly from Pittsburg, but from local stations not far from the city,) 87,995 tons, and 80,000 tons for its own use; and the Beaver and Erie canal carried to Erie 128,000. Total, 342,130 tons; which, at 26⅔ bushels to the ton, gives us 8,409,423 bushels.

We have not included in this estimate the

amount mined and used in manufacturing in the large number of factories and furnaces scattered over Western Pennsylvania within 50 miles of the city; because, firstly, we have no data, and secondly, it does not so properly belong to the total as the items we have enumerated. We have also omitted the amount brought to the city by the various railroads, because the amounts so received were either locally consumed or shipped west, and therefore included in the other computations.

To sum up, therefore, we append a table of the various items given above:

Shipped West by river	25,163,235 bush.
" " railroad	1,214,888 "
" North by canal	3,371,000 "
" East by railroad	2,316,302 "
Consumed by Pennsylvania Road	2,107,000 "
Local domestic consumption	5,339,440 "
Local comsumption in factories	14,855,767 "
Total	54,367,632 "

Which reduced to tons, gives us a grand total of 2,064,594 tons. We believe this is a fair approximation to the actual figures—as close an approximation as it is possible to get. As the *Register* says, the total is a large one from any point of view, and there is nothing to be gained by either magnifying or underrating it. We have given nothing upon conjecture, the domestic consumption of the city we have obtained from well authenticated returns; the consumption in manufacturing was obtained originally from the books of the manufacturers themselves; and the amount exported has been ascertained by reference to the reports and books of the transportation companies. We can see no reason, therefore, for doubting our figures, particularly as the only estimate given which is not based on actual returns is more likely to be over than under the mark.

There is another item which might be added—the consumption of cannel coal for the manufacture of oil; but as we have no data to go upon, we have thought it safest to omit it altogether.—*Pittsburg Register.*

Pennsylvania Coal Company.

The annual statement of the business of this company, for the year 1858, and of its condition at the close of the financial year ending May 1st, 1859, has been received.

The quantity of coal brought to market during the season was 630,056 tons, or 86,183 tons more than that of the preceding year.

The net profits of the business amount to $268,746 25, or about 8½ per cent., on the capital stock; exceeding those of the preceding year about two per cent.

Out of the earnings for 1858, two semi-annual dividends of 3½ per cent. each have been declared.

The railroad and its equipments, and the works of the company, continue to be maintained in excellent working condition without increasing the construction account.

The following is a statement of the company, for the year ending May 1st, 1859:

Coal on hand per last report, and cost of coal mined in 1858, etc.	$580,936 74
Road expenses	330,167 82
Canal freight	616,368 52
Tolls paid Delaware & Hudson Canal company	264,056 60
Port Ewen expenses	34,544 77
State tax	9,600 00
Interest on $600,000 mortgage bonds.	42,000 00
Salaries, current expenses, etc., New York office	27,598 41
Coal yard and harbor expenses, rents, depreciation of tools, etc., etc.	155,388 67
Balance	268,746 25
	$2,329,407 78
Sales of coal	$1,999,509 73
Amount received for transportation over company's road, profits on barges, etc.	41,148 30
Coal on hand May 1, 1859	288,749 75
	$2,329,407 78

Balance Sheet.	Dr.	
To capital stock		$3,200,000 00
To 7 per cent. mortgage bonds		600,000 00
To bonds and mortgages payable		163,224 31
To bills and accounts payable, etc.		198,534 29
To balance made up as follows:—		
Balance per last report.	$382,589 68	
Earn'gs, 1858, per statement	268,746 25	
	$651,335 93	
Less dividends paid	208,000 00	
		443,335 93
		$4,605,094 53
	Cr.	
Railroad and equipment		$1,998,819 45
Real estate, docks, etc.		1,281,101 86
Canal boats		291,136 77
Barges and steamboats		36,000 00
Opening mines		250,000 00
Disbursements on account of business of 1859, etc.		214,287 52
Balances in hands of agents		5,959 83
Balances due from the Delaware and Hudson Canal Comp'y, on business of 1850 and 1851, not including interest, sundry unsettled claims, etc.		25,608 13
Cash on hand May 1, 1859		81,209 42
Bills on accounts receivable		123,721 80
Coal on hand, tools, etc.		297,249 75
		$4,605,094 53

The officers elected for the ensuing year are:

John Ewen, *President.*

George A. Hoyt, *Treasurer.*

Edwin H. Mead, *Secretary.*

The Quality of Railroad Car Wheels, and Rails--How to Test them.

It is well known that all railroads have to take their machinery and rails, *on trust*, as to their *quality*, which has to be ascertained from the experience of its wear. At present, there is no better guide, in the outset, than the representations and reputations of the manufacturers. The consequence is, that a vast amount of poor material is constantly put in use, to the great injury and loss of the companies. Various tests of quality have often been resorted to, but they have all failed to a very great degree, for the reason that the trial, to which rails and wheels, for instance, are subjected, in the experiment, is different, in *kind*, from the wear and tear to which they are subjected when in use. To meet the exact conditions required, Mr. Charles T. Liernur, Civil Engineer of Mobile, proposes a contrivance which shall subject the samples of rails and rolling stock to be placed upon a road, to a duty exactly similar to that it will be required of them when on the track. This plan is very simple, and it strikes us as entirely feasible, and one which should be adopted by every leading company. For the purpose of placing the same before our readers, we copy below, in full, a description of Mr. Liernur's mode of testing and his remarks as to the value of such a contrivance.

Engineers of railways and other officers, to whom the purchase of rails and wheels is entrusted, are well aware of the difficulty, nay, almost impossibility, of ascertaining if the corporation for whom they are agents are ever to get their money's worth. Many contrivances have been got up to establish some kind of test on the material.

Hydraulic presses and steam trip-hammers have been got up to detect the positive strength of the iron; but owing to the impossibility of finding out the exact value of the experiment, (that is to say, for instance, how many blows of a steam trip-hammer would be equal to a day's use of the rail or wheel when in actual use upon the road,) these methods have been abandoned as useless.

So utter is the want of a correct mode of testing, that engineers have actually been driven to the extreme of accepting the manufacturer's guarantee for the value of the article purchased. And so well do manufacturers know the great difficulty of obtaining a correct test, *that they prefer to deal with buyers who insist upon inspection*, simply because if rails are once inspected and the consequent acceptance is by both parties agreed upon to be final and valid, the buyer is debarred from the right to sue at law when in usage the rails prove to be bad.

Thus it often happens that rails accepted by professional inspectors prove to be inferior, whereas such as are simply made under the maker's guarantee prove to be altogether better.

That it is wrong to rely upon this, experience has shown, for notwithstanding the guarantee, rails and wheels wear out alarmingly fast, and as their positive quality only shows after some years' use, it is often extremely difficult to get any of the money refunded.

There is, in fact, no doubt of the necessity of a test. The idea of relying upon the statement of the seller for the value of the thing bought is preposterous, and any ordinary business man will know that such a practice will, in nine cases out of ten, result in swindling on the one side and being victimized on the other.

Rails never strictly *wear* out. The experiments of the Belgian engineers have shown that rails under an ordinary traffic, will last over one hundred years. But they *laminate*, until unfit for use.

This lamination or parting of the fibres composing the head of the rail, is the result of a simultaneous *hammering, crushing* and *tearing.*

The hammering is caused by depressions in the surface of the track. When the time of travel of the wheel over a depression is faster than the car springs can operate, the wheel will not touch the rail at such depression. Thus a blow is struck when the wheel subsequently touches the rail, the effect of which is proportional to the speed and weight of the wheels.

The crushing is done by excessive weight, and is, of course, principally due to the driving wheels of the engines.

The tearing is done by the zigzag motion of the car wheels over the rails. This sideway movement forces apart the fibres of the iron which previously has been hammered, battered and crushed loose. Thus rails on badly aligned roads laminate faster than on straight roads.

Worn or grooven wheels are very destructive, because a hard ridge is formed on their tires, with softer iron each side. This ridge being nearly on the outer edge of the wheels, causes that rails more generally become laminated on the outer edge of the head.

If this analysis of the forces tending to the destruction of rails be true, the necessity is evident of establishing a test in which all these forces are combined in precisely the same manner; for when the exact proportion of them to each other is unknown, a test in which each of them is brought to bear separately cannot be correct.

The proper system of testing anything, consists in submitting the article to a course of trials, exactly similar in its results to actual usage.

For this purpose I lay a circular track, composed of 3, 4 or more rails, making a circle of from 20 to 30 feet in diameter.

On this track I place a car supported by 4, 6, 8 or more wheels, all the axles of which point towards the centre—said car to revolve with, and to

be attached to, a perpendicular shaft placed in the centre of this circular track. The wheels to be of the size, pattern, and make, as actually are to be used upon the road for which the rails are to be tested, and the car to be loaded with a weight per wheel equal to the greatest load they will have to sustain when in use upon the road.

The vertical shaft to be well braced and to be strongly attached to the car, so that when a rotary motion is given to the former, this motion will be participated in by the latter—a pulley being placed at the top or bottom of the shaft for the purpose of revolving said shaft by means of a stationary steam engine placed near by.

The speed of travel of the wheels to be the same as the average speed required upon the road.

The *modus operandi* of the test of rails with this apparatus can be illustrated as follows:

Assuming the average traffic of the road to demand the going and returning of 8 daily trains upon the road, (or 4 each way,) of 15 8-wheel cars, then each rail would be ridden over by 480 wheels daily. My testing car being supported by, say, 8 wheels, of course, in that case 60 revolutions would be equal to one day's use of the rail. Supposing the circular track to measure 60 feet on its circumference, and the average speed of the trains on the road in question to be 20 miles per hour, or say 1,800 feet per minute, then it would be necessary to give the revolving car 30 revolutions per minute, to subject the rails to a trial of usage with the same speed. At this rate (60 revolutions of the car being equal to one day's use of the rails) the effect of the wear due to that time will be produced in two minutes. If two minutes is equal to one day's use, then one hour will be equal to that of 30 days, and 12 hours and 10 minutes to that of 365 days, or one year. Or in other words, experimenting during one day of 12 hours and 10 minutes, will show the effect of a whole year's use of the rail when laid on the road.

A rail which begins to laminate in 6 days 4 hours and 6 minutes of testing, is sure to do the same in 6 years 4 months and 3 days of usage.

To obtain the effect of the hammering, crushing and tearing due to the wheels, one or two of the rails composing the track should be so bent as to form depressions in the surface of the track, and also be not exactly true in its circular allignment, in order to cause a zigzag or sideway traction.

Thus all the different peculiarities of a railroad can be imitated, and the duration and corresponding value of rails and wheels be determined with great accuracy, because in the trial they are exposed to all the various strains and other elements tending to its destruction in the same combination as they would be when laid upon the road, and were subjected to its regular traffic.

The contested superiority between pear and square headed, thick and thin headed rails, hollow and solid rails, heavy and light rails, the merit of all kinds of splices, chairs, keys, and bolt fastenings, and between the great variety of car wheels, will thus soon be determined.

My object in submitting the above description of my plan of testing to the engineers and managers of railways is, in case they approve my theory, to solicit their aid in constructing such an apparatus for the purpose of ascertaining its correctness. As my aim in this is not for personal gain but for mutual protection, and for the sake of advancing engineering science, and as all railways are alike interested in its results, I request the co-operation of *all*. To accomplish this at the minimum cost for each, I propose that each company shall pay a sum proportional to the length of its road, and have fixed this sum at fifteen cents per mile. If all the roads from which such co-operation reasonably can be expected, contribute this amount, the sum collected will reach about three thousand dollars, which is the amount estimated to be required.

Drawings, giving details and showing the construction, will be found at my office in Mobile, or will be supplied on application of railway companies.

CHARLES T. LIEBNUR,
Civil Engineer, Mobile, Alabama.

Finances of Boston.

From the report of the City Auditor for the financial year ending May 1, 1859, it appears that the total receipts into the treasury during the year were $5,132,956 93; expenditures, $4,419,542 37. Balance April 30, 1859, $1,116,697 41. But this balance was chargeable with $370,229 53 of the loan of $400,000 to defray the cost of the new Water Main to Brookline and other sums, in all amounting to $430,000, and also to the sum of $208,900, the amount advanced by the Treasurer on loans not consummated. During the year there has been borrowed for city purposes, exclusive of the loan of $400,000, obtained to pay the cost of a new water pipe, the sum of $832,950. Of this amount $396,350 has been for the improvement of streets and sewers; $104,000 for school houses; $225,600 for public lands; $97,000 for public buildings; and $10,000 yet to be expended for stables.

The net debt on the 30th of April, 1859, was	$7,831,984 72
Do. April 30, 1858	7,177,182 76
Net increase in 1858-9	$654,801 96

The school expenses, exclusive of the cost of two new school houses, ($105,186) have increased about $9,000 over last year. The fire department has cost $1,750 less than last year. The revenue from the water rates for the year has been $313,694 60, against $296,512 25 last year. The estimate for 1859 60 is $310,000. The excess of *net* expenditures over the *net* revenue, from all sources, in 1858-9 has been $10,359 07.

Vermont Central Railroad.

A disagreement has arisen between the bondholders, stockholders and directors of this road. A meeting of the holders of the 1st mortgage bonds was recently held in Boston, at the conclusion of which the following resolutions were read, voted upon separately, and passed unanimously, viz:

Resolved, That a committee of three bondholders be and are hereby appointed to represent and act for us as our agents, with full powers to represent us in all cases, and more especially to confer with all parties having adverse claims and interests, and to compromise, subject to ratification by majority of bondholders, the same if considered expedient; and to oppose the arrangements so subversive of our rights lately made or contemplated between our Trustees and the Vermont and Canada Railroad.

2. To hasten to its end the present suit for foreclosure, and in case this suit failed to accomplish the purposes for which it is intended, to institute any and every other process in our means to foreclose the 1st mortgage, which may in their opinion be necessary.

3. To procure the resignation or removal from office of the present trustees, who, in our opinion, are unfit longer to retain it.

4. To obtain an early and full account from the Trustees of their acts and doings, and to ascertain and obtain payment of all balances of accounts and moneys due from them, whether on contracts or otherwise.

5. To obtain an order from the courts having cognizance of the matter, that, hereafter, all moneys received from traffic on the roads be deposited in bank, and that the bonds of the receivers be increased in amount.

6. That if more expedient in their mind so to do, to obtain and procure a sale of the road, real and personal property and franchise, either by decree of the Court, or under power contained in the 1st mortgage; which sale we hereby authorize said committee to request the trustees of the 1st mortgage in our names to make; so that the whole property may be converted into stock upon the basis of the agreement heretofore entered into for that purpose, for the benefit of all the bondholders; *provided*, that such request is not to be made unless it appears to said committee that such a conversion of the property by sale can be more speedily, or more beneficially effected by the sale than by the foreclosure.

Wm. Sohier, Wm. Drury, and Robert Earle, were appointed a committee to carry into effect the above resolutions.

Summary of the Performance and Cost of Locomotive Engines on the Baltimore and Ohio Railroad for July, 1859.

First Division.	
Number of *Passenger Engines*	6
Average No. of miles run by each engine	2,688
Miles run to 1 cord wood, (lighting fires)	1,093
" " " quart of oil	38.6
Pounds of coal consumed per mile run	19.7
Cost of repairs per mile run	5.8
" fuel " " "	2.7
" stores " " "	0.7
Total cost " " "	9.2
Number of *Tonnage Engines*, (including switching engines)	59
Average No. of miles run by each engine	1,317
Miles run to 1 cord wood, (lighting fires)	640
" " " quart of oil	25.3
Pounds of coal consumed per mile run	48.8
Cost of repairs per mile run	7.7
" fuel " " "	6.7
" stores " " "	0.8
Total cost " " "	15.2
Washington Branch.	
Number of *Passenger Engines*	3
Average No. of miles run by each engine	2,320
Miles run to 1 cord wood, (lighting fires)	568
" " " quart of oil	51.1
Pounds of coal consumed per mile run	27.6
Cost of repairs per mile run	5.2
" fuel " " "	4.7
" stores " " "	0.6
Total cost " " "	10.5
Number of *Tonnage Engines*	2
Average No. of miles run by each engine	2,024
Miles run to 1 cord wood, (lighting fires)	674
" " " quart of oil	25.6
Pounds of coal consumed per mile run	28.2
Cost of repairs per mile run	9.7
" fuel " " "	4.5
" stores " " "	0.9
Total cost " " "	15.1
Second Division.	
Number of *Passenger Engines*	4
Average No. of miles run by each engine	3,034
Miles run to 1 cord wood, (lighting fires)	933
" " " quart of oil	60.6
Pounds of coal consumed per mile run	20.3
Cost of repairs per mile run	3.4
" fuel " " "	1.7
" stores " " "	0.5
Total cost " " "	5.6
There are also upon this division two wood-burning *Passenger Engines*;	
Average No. of miles run by each engine	2,712
Cost of repairs per mile run	1.7
" fuel " " "	6.7
Number of *Tonnage Engines*	36
Average No. of miles run by each engine	1,324
Miles run to 1 cord wood, (lighting fires)	849
" " " quart of oil	30.0
Pounds of coal consumed per mile run	64.1
Cost of repairs per mile run	7.6
" fuel " " "	5.1
" stores " " "	0.8
Total cost " " "	13.5
Third Division.	
Number of *Passenger Engines* (10-wheel engines weighing 60,000 lbs.)	4
Average No. of miles run by each engine	2,194
Miles run to 1 cord wood, (lighting fires)	1,008
" " " quart of oil	28.3
Pounds of coal and coke (about equal quantities of each) consumed per mile run	62.0
Cost of repairs per mile run	5.2
" fuel " " "	5.9
" stores " " "	0.8
Total cost " " "	11.9

Number of *Tonnage Engines*	38
Average No. of miles run by each engine	728
Miles run to 1 cord wood, (lighting fires)	1,194
" " " quart of oil	21.2
Pounds of coal consumed per mile run	88.9
Cost of repairs per mile run	11.3
" fuel " " "	4.4
" stores " " "	1.1
Total cost " " "	16.8

FOURTH DIVISION.

Number of *Passenger Engines*	9
Average No. of miles run by each engine	2,174
Miles run to 1 cord wood, (lighting fires)	523
" " " quart of oil	34.9
Pounds of coal consumed per mile run	23.0
Cost of repairs per mile run	8.8
" fuel " " "	3.0
" stores " " "	0.7
Total cost " " "	12.5
There is also upon this division one wood-burning *Passenger Engine;*	
Number of miles run by engine	3,216
Cost of repairs per mile run	2.0
" fuel " " "	4.0
Number of *Tonnage Engines*	24
Average No. of miles run by each engine	820
Miles run to 1 cord wood, (lighting fires)	543
" " " quart of oil	25.4
Pounds of coal consumed per mile run	52.3
Cost of repairs per mile run	7.7
" fuel " " "	3.1
" stores " " "	0.9
Total cost " " "	11.7

PARKERSBURG BRANCH.

Number of *Passenger Engines*	2
Average No. of miles run by each engine	1,395
Miles run to 1 cord wood, (lighting fires)	1,177
" " " quart of oil	30.0
Pounds of coal consumed per mile run	20.1
Cost of repairs per mile run	18.2
" fuel " " "	1.2
" stores " " "	0.9
Total cost " " "	20.3
Number of *Tonnage Engines*	16
Average No. of miles run by each engine	624
Miles run to 1 cord wood, (lighting fires)	536
" " " quart of oil	24.7
Pounds of coal consumed per mile run	54.3
Cost of repairs per mile run	17.5
" fuel " " "	3.0
" stores " " "	1.0
Total cost " " "	21.5

NOTE.—Cost of repairs includes the cleaning of engines.

HENRY TYSON,
Master of Machinery.

The following is a summary of the above statement:—

Miles run on the several divisions.	Cost of stores.	Cost of fuel.	Cost of repairs.	Total cost of fuel, stores, oil & waste, and repairs.
16,128	$112	$435	$916	$1,483
77,703	621	5,206	5,983	11,810
6,960	41	326	363	730
4,048	36	182	393	611
12 136	60	206	413	679
47,664	381	2,432	3,621	6,434
8,776	70	517	457	1,044
27,474	302	1,209	3,104	4,615
19,566	187	587	1,721	2,445
19,680	177	611	1,514	2,302
2,790	25	34	508	667
9,980	99	300	1,746	2,145
252,905	$2,061	$14,045	$20,755	$36,965
Cost per mile run in cents,	.81	5.55	8.26	14.62

If we add to the above the amount paid engineers and firemen per mile, at the rate paid last year, 4.81 cents per mile, we shall have a total cost for maintaining and operating this department for the month of July, equal to 19.43 cents per mile. The cost of operating and maintaining this department, for 1858, was as follows:—

	Cents.
Cost of repairs, per mile	10.10
Do. fuel do.	2.99
Do. oil and waste, per mile	1.76
Do. enginemen and firemen, do.	4.81
Total, per mile run	19.66

American Railroad Journal.

Saturday, August 27, 1859.

New York and Erie Railroad.

We learn that the committee of Directors of this road have agreed to report substantially the plan contained in the last issue of the JOURNAL. There are to be some modifications, however. The mortgage debt of the Company amounts to $17,958,500. Unsecured debt, and coupons overdue, $7,825,150. The bills payable are reduced to $320,000. Overdue interest on Mort. Bonds, $211,000. Due on the 1st of September and 1st of March, on 1st and 2nd mortgages, $245,000. These three last sums it is proposed to pay in full. The coupons due on the 3d mortgage, in September, it is proposed to extend twelve months, and to convert into stock two coupons next falling on each of the 4th and 5th mortgages.

It is proposed to make the stock $8,827,214, made up as follows:

$7,825,150 Unsecured Bonds at	$6,260,120
11,000,000 Stock at	2,200,000
347,094 Coupons, as above	347,094
	$8,827,214

An assessment of 10 per cent. on this amount will produce $882,721, which will meet all the immediate liabilities of the company, as it is proposed to be organized. We defer comment till we get the report of the committee.

The Uncertainty in the Value of Railroad Property.

Every person interested in railway property in this country must have felt, by this time, the utter impossibility of placing any reliance upon its *permanent* value. If a road in which he holds securities or shares commences its operations favorably, and pays large dividends, he, of course, is so far grateful. But are these to continue? This depends upon causes or influences which he cannot control, and often much less detect. While everything is so fair on the surface, he does not know whether he is at the mercy of ignorance or selfishness, the two great rocks upon which our roads make shipwreck. Those managing them take good care often, either through ignorance or selfishness, to give no data by which he can tell what the road has actually earned, what is its present condition, or the sums likely to be called for in the future for construction or repairs. He may, as in the case of the Chicago and Rock Island, receive a dividend of *seventeen* per cent., which, at the time is taken, as evidence of the wonderfully prosperous condition of the company, but which may prove to be the last he will get for years. The excessive dividend turned to be a stock jobbing affair, made at the very time that the road was needing an immense expenditure, which have ever since absorbed the earnings, and may continue to a long time to come. No person can tell when he is safe. In nearly all of our roads a construction account has been kept open, serving a double purpose; a pretext upon which to raise money by sales of stock or by new loans; or as an account to which to place uncomfortable items which would not look well in print, and which would tend to swell too largely the operating expenses. All goes on well so long as the money, whereby to meet this account, can be raised. When the resources fail, the dividends stop with it. Or if these are continued for a time, it is at the expense of the road, which is allowed to run down to a degree that will allow repairs to be postponed no longer. Thenceforward all that can be raked and scraped together, for years, has to go to restore the road and equipment to a passable condition.

Another great reason for distrust, is the constant and enormous fluctuation in the accounts of the various items that make up the current expenditures of our roads. In manufacturing, for example, unless the manufacturer can keep his expenditures pretty nearly uniform, one year with another, he will certainly fail, as he cannot expect corresponding fluctuations in the price of his goods. The charges of railroad companies vary but little. If their expenditures vary 2 or 300 per cent. in amount, it is plain that no estimate can be formed as to the amount of *net* earnings. For example—the Michigan Central Railroad for 1856 used wood to the value of $273,000; the year following, the fuel consumed for same mileage, (at the cost per mile for the previous year,) would have cost only $120,000. Similar fluctuations, though perhaps not so excessive, are to be found in other items. The case of the New York Central Railroad is almost equally pertinent. Three years ago, it cost the company 21 cents per mile for fuel. It now costs 8. The reduction is a most favorable feature to be sure; but is it to continue, or will the company soon return to the figures of 1856? The saving effected fails to inspire confidence, because it is feared that it will turn out that it was apparent rather than real. If real, will it become a *habit* on the part of those who could allow such a great waste to be committed? Is there not something radically wrong in the business qualities of men who are profuse and negligent till acted upon by the pressure of necessity, and will not their old habits return to them so soon as this pressure is removed?

We have commenced the publication of *analysis* of the operations of railroad companies, covering a period of five years. In this period there have been two great extremes of inflation and depression. A picture of the operations of our railroads during it will, of course, show two equally great extremes of wastefulness and its opposite. We have many well-managed roads. We cite two such examples this week. These examples cannot fail to react upon others. Our railroads have now been in operation a sufficient length of time to have a history. We now propose, week by week, to place this history before the public.

Traffic of Railroads.

There seems to be a general improvement in the traffic of railroads throughout the country. We think our roads have seen their darkest day as far as their business is concerned.

Analysis of Railroad Reports--Cleveland, Columbus and Cincinnati Railroad.

We give below an analysis of the operations of this company for a period of five years ending Dec. 31, 1858.

The result is, on the whole, an uncommonly favorable one. The cost of the road has been kept within moderate figures, being $33,841 per mile. The construction account has increased only $226,408 in the five years. This increase has been met out of the earnings; the liabilities of the company to the stockholders and creditors being $27,678 *less* than at the close of the fiscal year in 1854. The following statement will show the cost of the road and the liabilities of the company for the past five years:

	Cost of Road & Equipment.	Liabilities to Stockholders & Creditors.
1854	$4,546,113	$4,775,579
1855	4,613,722	4,619,438
1856	4,731,626	4,844,709
1857	4,752,319	4,836,626
1858	4,772,521	4,748,100

The dividends of the company have averaged 10 per cent. for the five years. The available surplus on hand at the close of the year was $313,628.

This is one of the few of our Western railroads that has neither allowed its construction account, nor its liabilities, to increase for a period of five years. At the same time, both the road-bed and machinery have been well maintained. The company have uniformly pursued a prudent and conservative course, and hence the satisfactory result that has been obtained. It has been enabled to continue large dividends where nearly every other Western railroad was compelled to forego them. If it did not have so brilliant a commencement as some, it has held out far better.

The cost of maintaining the several departments of service has been comparatively low. The total cost of operating the road has been 88.93 cents per mile. To this, perhaps, should be added about $200,000 for extraordinary expenditures, that should have been embaced in the current expenses. This small sum, however, would not influence the general result.

The cost of maintaining and operating the Locomotive Department, has equaled 25.30 cents per mile, against 40.58 on the Galena and Chicago; 32.79 on the Michigan Central; 33.49 on the New York Central; and 20.04 on the Terre Haute and Richmond. We presume no good reason exists why this department on the C. C. & C. road cannot be as cheaply maintained as upon the Terre Haute and Richmond.

We have estimated the wages of enginemen and firemen at five cents per mile. The company in its account does not distinguish the amount paid to them, from the gross sum paid for operating expenses. Our estimate is probably very nearly correct.

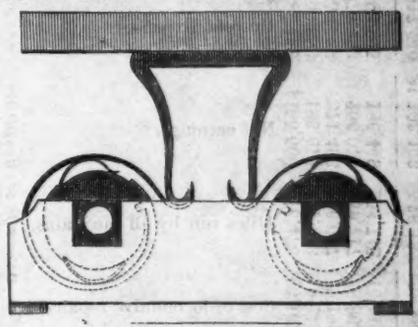
The *result* in the present case being so satisfactory, something may be excused to the *manner* in which it is stated. The *reports*, both in matter and form, are entirely unworthy so respectable a company. Regular balance sheets should be given from the Ledger, showing the general condition of the company, and also of the current operations of the road from year to year, so that one can see at a glance all the changes in its financial condition, and the disposition made of the net earnings. The company owe it a duty to the public to elaborate its affairs, so that other roads may see how success has been obtained on this.

Statement showing some of the leading items of the cost of operating the Cleveland, Columbus and Cincinnati Railroad, for a period of five years ending in 1858.

Year.	Length of road.	Cost.	Gross earnings.	Current expenses.	Net earnings.	Miles traveled by all the trains.	Cost of locomotive repairs.	Do. per mile run, in cents.	Cost of fuel.	Do. per mile run, in cents.	Cost of oil and waste.	Do. per mile run, in cents.	Wages of enginemen and firemen.	Do. per mile run, in cents.	Cost of maintaining and operating the locomotive department.	Total cost per mile for do.	Ratio to the entire cost of operating the road.	Cost of repairs of track.	Do. per mile of road.	Do. per mile run, in cents.	Proportion of same to the total cost of operating the road.
1854	141	$4,546,118	$1,228,562	$651,453	$572,109	712,478	$64,195	9.00	$54,878	7.71	$22,448	3.15	$35,623	5	$177,144	24.85	26	$177,477	$1,258	24.91	27
1855	141	4,618,720	1,290,295	558,239	732,056	603,088	70,740	11.72	57,629	9.56	15,064	2.50	30,154	5	177,587	28.77	32	77,204	547	11.14	14
1856	141	4,731,626	1,829,754	628,949	700,804	744,856	69,690	9.36	68,578	9.21	13,272	1.78	37,242	5	188,782	25.33	30	108,199	678	12.83	16
1857	141	4,752,319	1,149,741	635,002	514,740	678,757	66,381	9.72	66,166	9.74	18,296	1.96	33,937	5	179,780	26.41	28	140,309	984	20.45	22
1858	141	4,752,521	1,118,689	538,480	575,159	647,836	48,421	5.48	44,996	6.94	16,146	1.56	32,391	5	133,717	19.97	25	126,883	900	19.58	23½
		$6,106,991	$3,018,123		$8,094,868	3,387,015	$319,427	9.46	$292,247	8.65	$74,226	2.19	$169,347	5	$867,016	25.30	28½	$616,013	$873	18.18	20½

A New Spring.

We give below a cut of a tracing of a new spring, invented by H. Gardner, Esq., Civil Engineer, which it is proposed to apply to all purposes where springs are used. It is claimed that it combines the right degree of sensitiveness and rigidity. The form of the spring will be seen at once by a glance at the cut. It occupies a very small space, while, at the same time, it has a very long movement; the degree of elasticity being controlled, in part, by the small elliptical springs resting against the cylinder or hub. A number of these springs are now being manufactured for our city cars, as well as for railroad cars and carriages. Their real merit of course is to be tested by their use, of which trials are soon to be made.



The Great Eastern.

This great ship is now completed, and is to make her first trip to Portland, Maine, leaving London early in September. She is the great nautical wonder of the world.

Analysis of Railroad Reports--Terre Haute and Richmond Railroad.

Below we give an analysis of the reports of the Terre Haute and Richmond railroad for five years ending November 30, 1858.

The result is more than commonly favorable. The net earnings for the period given have been 57½ per cent. of the gross earnings. The expenses include all extraordinary expenditures since 1856, as the construction account has not been increased in the meantime. The extraordinary expenditures for 1857 amounted to $65,108, the greater portion of which went to the renewal of bridges and culverts, which accounts for the increase in this department over 1856. The extraordinary expenditures for 1858, amounted to $15,697, and are charged to the earnings. As the road and running stock are well maintained, the figures given may be relied on as expressing, correctly, the operations of the company from year to year.

The cost of maintaining and operating the locomotive department has been almost exactly 20 cents per mile run. The most satisfactory feature in this department is the uniformity of expenses for the various items that make up the aggregate from year to year. This fact shows that it has been looked after and conducted with an uniform degree of ability and faithfulness. There has been no such dancing from one extreme to another equal to 2 or 300 per cent., sometimes, that we have seen on the Michigan, and New York Central. The uniform average is about as low as any of our companies have been able to reach in their most extraordinary efforts at economy, and does not equal one-half that of the Galena and Chicago railroad for a similar period.

The dividends paid during the five years have equalled 15 per cent. per annum.

Statement showing the cost of maintenance of several departments on the Terre Haute and Richmond Railroad for five years ending November 30, 1858.

Years.	Length of road.	Cost of road.	Earnings.	Current Expenses.	Net earnings.	Miles run by all the trains.	Cost of locomotive repairs.	Do. per mile run, in cents.	Cost of fuel used.	Do. per mile run, in cents.	Cost of oil and waste.	Do. per mile run, in cents.	Wages of enginemen and firemen.	Do. per mile run, in cents.	Cost of locomotive depart-m't per mile run, in cents.	Cost of repairs of track.	Do. per mile of road.	Do. per mile run, in cents.	Station expenses.	Do. per mile run, in cents.	Train service.	Cost per mile run, in cents.	Per centage of expenses to gross receipts.
1854	78	$1,465,821	$289,992	$84,492	$155,500	116,473	$6,169	5.29	$6,428	5.52	$2,434	2.08	$7,608	6.53	19.42	$18,217	$250	15.64	$8,622	7.31	$7,608	6.53	35
1855	78	1,502,166	287,512	103,893	183,619	161,113	9,243	5.78	5,620	8.48	2,434	1.51	9,522	5.59	16.41	19,045	260	11.83	9,883	6.10	9,522	5.59	36
1856	78	1,611,450	581,835	159,838	871,496	186,087	9,192	4.93	9,539	5.12	2,647	1.42	12,486	6.71	18.18	52,262	730	28.08	12,721	6.84	12,486	6.71	30
1857	78	1,611,450	481,271	275,192	206,079	259,717	18,865	7.26	20,065	7.76	3,857	1.20	17,089	6.58	22.80	100,151	1,373	38.56	18,102	6.89	16,910	6.51	57
1858	78	1,611,450	380,274	198,825	186,449	254,742	16,419	6.48	19,110	7.50	1,974	0.77	16,160	6.33	20.08	60,072	823	23.57	15,044	5.89	15,259	5.99	51
		$7,801,887	$1,920,384	$817,240	$1,108,143	978,182	$59,888	6.12	$60,752	6.21	$12,846	1.81	$62,855	6.40	20.07	$249,747	$648	25.58	$64,222	6.52	$61,785	6.31	42½

Cincinnati Stock Sales.

BY KIRK & CHERVER.

For the week ending August 22, 1859.

BONDS.	Per cent.	
Little Miami, 1st Mort.	6s	83 and int.
Covington and Lexington, 2d Mortgage	7s	55
Cinc., Ham. and Dayton, 2d Mortgage	7s	85
Indianap. & Cincinnati, do. do.	7s	82½

STOCKS.	
Cincinnati, Hamilton & Dayton	67
Columbus and Xenia	82
Indianapolis & Cincinnati	50
Little Miami	93

Journal of Railroad Law.

CARRIERS OF PASSENGERS. THEIR LIABILITY FOR ACCIDENTS.

The case of Bowen *vs.* The New York Central Railroad Company, lately decided in the New York Court of Appeals, determined some important principles of law relative to the liability of common carriers of passengers for accidents. The action in that case was brought to recover for injuries sustained by plaintiff, a passenger, over defendants railroad, through the car in which he was riding being thrown off the track and down an embankment.

On the trial, the plaintiff, under the charge of the judge, recovered a verdict. The defendants, however, excepted to the charge, and took an appeal upon their exception. The facts of the case are fully stated in the opinion.

JOHNSON, C. J.—The case disclosed by the bill of exception is, that the plaintiff, a passenger on the defendants railroad, was injured under these circumstances: As the train was passing Bergen station, the engine struck a cow which had strayed upon the track, killing the cow, and dragging her body about one hundred feet, where it was left by the side of the track. At that point the rear truck of the rear car, in which the plaintiff was riding, was thrown off the track, and the car, after running on in this condition some thirty rods, became detached from the train, and was turned over and thrown down a descent of five or six feet, and badly broken. There was nothing to prevent cattle passing from the highway to the place where the engine came in contact with the cow. The Judge at the trial charged as follows: "The law presumes, in this case, that the overturning of the car, and the consequent injury to the plaintiff, resulted from the defendants negligence; that this presumption can only be rebutted by evidence on the part of the carrier that the accident occurred from circumstances against which human prudence and foresight could not guard." The defendants excepted. The exception assumes that the carrier is rightfully charged with the burden of exculpating himself from presumable negligence, and brings in question only the rule of care and diligence, which the charge prescribes as the test of his liability. The rule thus stated exempts the carrier from responsibility for those accidents only which occur from circumstances against which human prudence and foresight could not guard, and holds him bound to employ the utmost prudence and foresight in avoiding and guarding against accidents. It is contended on the part of the defence that the rule laid down at the trial, imposes upon the carrier of passengers the obligations which attach to the carrier of goods, and makes him, practically, an absolute insurer of the safety of passengers. The criticism upon the rule is founded upon what I consider a misinterpretation of the language of the Judge. He must not be understood to say that, if the jury, looking back at the circumstances of an accident, can see that some course of conduct, or precaution, would have prevented its occurrence, the carrier is liable for having failed to pursue that course, or omitted that precaution. In this sense, and in this sense only, is the position of the defendants counsel accurate, that human prudence and foresight can guard against every danger not resulting from the act of God, or public enemies.

The judge was speaking of prudence and foresight to be exercised before the accident, and without knowledge that it was about to occur. Nor can his language be deemed inconsistent with the idea that railroad cars are to be run, and run at speed, or to require that railroad companies, for the mere purpose of securing safety to passengers, shall not do all that they are intended to do when they are established. But assuming this, he said, in substance, that the utmost prudence and foresight were to be manifested in guarding against accident.

In this he was sustained by the language of the elementary books and the cases. Thus, in Story on Bailments, it is said, passenger carriers bind themselves to carry safely those whom they take into their coaches, as far as human care and foresight will go, that is for the utmost care and diligence of very cautious persons. (§ 601.) And again, that after the onus has been cast upon them, they are bound to show that there has been no negligence whatsoever; and that the damage or injury has been occasioned by inevitable casualty or by some cause which human care and foresight could not prevent. (*Id.*, § 601, *a*; 2 Greenl. Ev., § 222; Angel on Carriers, § 569; Christie *vs.* Griggs, 2 Camp., 79; Laing *vs.* Colder, 8 Barr, 479; Ingalls *vs.* Bills, 9 Metc., 15. Hegeman *vs.* Western Railroad, 3 Kern, 24.) In all these books and cases, and others might be added were it needful, the same expressions, in substance have been used as were employed in this case to mark the line of the obligation of a passenger carrier. "As far as human care and foresight will go," has become almost a familiar form of expression in stating the rule of duty. If any fear was entertained that the jury might not correctly apprehend the force of the rule, and understand the judge to speak, not of prudence and foresight to be exercised before the event, but after it, and as affirming that if they could then see that particular precautions would have prevented the particular accident, though its likelihood could not be foreseen, and did not, therefore, need to be guarded against, some request should have been made to the judge which would have called his attention to the misapprehension which was thought possible. Under those circumstances he would, we must assume, have added such explanations or limitations as might have been legally required. Of course, carriers of passengers are not insurers of the safety of their passengers; but measuring the duty of care, in degree, by the dangers which attend railroad carriage, it is plain that the utmost foresight as to possible dangers and the utmost prudence in guarding against them, are the only limits which a decent regard to the safety of men, and a conformity to the established principles of the law, allow to be fixed to the responsibility of those who conduct and manage railroads.

Ship Canal Across the Isthmus of Darien.

A party of American Engineers, under the charge of the Navy Department, are about to proceed to the Isthmus of Darien with instructions to search for a practical route for a ship-canal across the Isthmus of Darien, are instructed to explore the coast of the Caribbean sea, with a view to test the statements of Gisborne and Cullen (Englishmen) that there is such a depression of the Eastern Cordillera as to admit of the easy construction of a ship-canal—the country west thereof to the Pacific being without any considerable elevation. Should the party not be able to find the gap of depression referred to, by reason of the overlapping of mountains or other causes, they will, doubtless, be instructed to proceed to the Pacific side of the continent and seek a practical route for a canal along the line traversed by Surgeon Caldwell, U. S. N., in 1857. This gentleman, inspired by the faith of old residents in respect to the existence of a region nearly level stretching across the continent above the headwaters of the Chimcanagua, undertook the labor of a practical test. He proceeded with a small party from the excellent bay of San Miguel, several miles in a north-easterly direction, up the navigable river Savana, and thence east, across the country to a point regarded as not far in a direct line from the Caribbean sea. Here, on account of dearth of provisions, Dr. Caldwell was forced to close his tour and return to the Pacific coast. His conclusions, as reported to the Navy Department through his commanding officer, Com. Mervine, are as follows:

1. That the summit level of a route from Principe northerly to the Atlantic is within eight miles of the Savana river, and being but 160 feet above the ocean level, will not prove insuperable to engineering skill in constructing a ship canal.

2. That there is a low tract of land extending from the summit level east to the Atlantic.

3. That a gap in the Eastern Cordillera exists near the north-western limits of the Caledonia Bay, on the Caribbean sea. From tree tops near the summit level referred to, such gap in the mountain was descried and through it the great sea beyond. This was afterwards lost to the view of the explorers by the overlapping of mountain ranges.

The new exploring party are to have every desirable facility for prosecuting their survey, and among other things a balloon, from which observations of the country may be taken by experienced aeronauts, through the use of what is called an "instanter type." This gives the most minute objects, which are brought out by use of the microscope. Ravines, gaps or depressions thus discovered, may, it is held, be easily found and explored, so as to demonstrate reliably whether or not there is such a route as has been so often asserted by both British and American officers.

Buffalo Convention.

The convention of Railroad Companies, which met at Buffalo, did not accomplish much. The convention, however, separated with the best of feelings. The Western Railroads met at Cleveland, on Thursday, to act upon the proposition of the Eastern lines. We believe the day of strifes and competition to be pretty nearly over.

RAILROAD IRON.

THE subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of **RAILROAD IRON** at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,
BOSTON, June, 1851. **29 Central Wharf.**

RAILROAD IRON.

CONTRACTS for **RAILS**, at a fixed price or on commission, delivered at an English port, or at a port in the United States, will be made by the undersigned.

THEODORE DEHON,
10 Wall st., near Broadway, N. Y.
500 tons T Rails on hand, 54 to 57 lbs. per lineal yard.

Railroad Iron.

THE undersigned have American and Foreign Railroad Iron for sale, deliverable in New York and other markets.

CASWELL & PERKINS,
Brokers, 69 Wall st.
NEW YORK, July 9, 1859.

FULTON FOUNDRY AND MACHINE WORKS,
P. F. GEISSE,
WELLSVILLE, OHIO.

STEAM ENGINES of every variety built to order. STEAM BOATS and STEAM FERRY BOATS contracted for in whole.

PUTNAM'S PATENT **Turn-Tables** (a very superior and simple table) of all sizes built to order at very reasonable rates.

Car Wheels of a quality superior to any ever yet made. I am now manufacturing from the best material, and annealed by a process patented by me in February, 1859, which renders them almost equal to wrought iron. Car Wheels, Steam Engines and all kinds of machinery furnished at as low, if not lower rates than can be found elsewhere.

Rights to manufacture Car Wheels under P. F. GEISSE'S annealing process may be obtained from the Patentee at Wellsville, O., or from T. Culbertson, No. 8 Fourth Avenue, N. Y.

Testimonials from the Superintendents and Master Mechanics of the Cleveland and Pittsburg, Little Miami, and Steubenville and Indiana Railroads, as to the superior quality and durability of these Wheels will be furnished on application.

RAILROAD IRON.

THE undersigned, Agents for leading Manufacturers in STAFFORDSHIRE and WALES, are prepared to contract for delivery on board ship at LIVERPOOL, or WELSH port.

C. CONGREVE & SON,
13 Cliff st., N. Y.

RAILROAD IRON.

THE undersigned, Agents for the Manufacturers, are prepared to contract to deliver, free on board at shipping ports in England, or at ports of discharge in the United States, RAILS OF SUPERIOR QUALITY, and of weight or pattern as may be required.

YOSE, LIVINGSTON & CO.,
9 South William st.
NEW YORK, Aug. 1, 1858.

RAILROAD IRON.

THE RENSSELAER IRON COMPANY,
TROY, N. Y.,

OFFER Rails of their own manufacture deliverable as may be desired by purchasers.

OLD RAILS

received in exchange for new, or for re-manufacturing.

JOHN A. GRISWOLD, Agent,
TROY, N. Y.

New York Agency:
BUSSING, CROCKER & DODGE,
32 Cliff St.

MORRIS & JONES & CO.,
IRON MERCHANTS,
MARKET AND SIXTEENTH STREETS,
PHILADELPHIA.
IRON AND STEEL
IN ALL THEIR VARIETIES.

BOILER PLATE, CAR AXLES,
BOILER RIVETS, RAILROAD IRON,
CUT NAILS and SPIKES, PIG IRON, etc.

Having the selling agency of a number of the Rolling Mills, Furnaces and Forges in this State, **orders for any description of IRON** can be executed.
August 16, 1854.

CAST STEEL,

Of First Quality and Warranted.

BAR, TOOL, DRILL, AND DIE STEEL.
LOCOMOTIVE, CAR AND CARRIAGE CAST STEEL.
CAR SPRING STEEL,
Far superior to the ordinary kind.
FROG PLATES, POINTS.
Saw, File, Cutlery, Rake, Hoe, Axe and Plough Steel. Gun Metal. Wire and Machinery Steel.
ORDERS FILLED PROMPTLY AND AT LOW PRICES.

SALTUS & CO.,
45 Cliff st., New York.

A GENTLEMAN who has upwards of 25 years experience in conducting an extensive machine manufacturing business (as principal) writes a good hand and has a thorough knowledge of accounts and general business routine, wishes an engagement with some established concern where his services would command a fair compensation.

Satisfactory evidence of business capacity and integrity will be furnished.

Address **S.** box 962 Baltimore Post Office. 3m33

RAILROAD IRON.

THE subscriber is prepared to enter into **CONTRACTS FOR RAILS** delivered at an English port or at a port in the United States.

JAMES TINKER,
54 Exchange Place,
NEW YORK.

Erie Rails, 57 to 58 lbs. per yard, on hand in NEW YORK and NEW ORLEANS.

LACKAWANNA
IRON AND COAL COMPANY,
SCRANTON, LUZERNE CO., PA.

BY the completion of the DELAWARE, LACKAWANNA AND WESTERN RAILROAD, this Company are enabled to obtain the MAGNETIC ORES from the most celebrated mines in New Jersey, which used in combination with their native ores, produce a **quality of iron not surpassed.**

These Works have been greatly enlarged the past year, and are, therefore, prepared to execute orders promptly for **RAILROAD IRON** of any pattern and weight, **Car Axles, Spikes,** and **Merchant Iron.** They have on hand patterns for **T Rails,** of the following weights per lineal yard, viz—25, 30, 36, 40, 45, 50, 60, 62, and 75 lbs.

Samples of RAILS and MERCHANT IRON may be seen at the office of the Company, **46 Exchange Place,** N. YORK.

Address **J. H. SCRANTON,** President,
Scranton, Pa.
or **DAVID S. DODGE,** Treasurer,
46 Exchange Place,
NEW YORK.

RAILROAD IRON.

THE undersigned, having been appointed Agents for Messrs. BOLCKOW & VAUGHAN, proprietors of the
ESTON, MIDDLESBRO', and WITTON PARK
IRON WORKS, YORKSHIRE, ENG.,
are prepared to contract for the sale of **RAILROAD IRON** of a superior quality and on the most advantageous terms.

MEAD & BELL,
17 William st., N. Y.

RAILROAD IRON.

THE undersigned, agents for the manufacturers, are prepared to make **CONTRACTS FOR RAILS** delivered free on board at ports in England, or exship at ports in the United States

M. K. JESUP & COMP'Y,
44 Exchange Place.
New York, 1st June, 1859.

RAILROAD IRON.

WOOD, MORRELL & CO.,

HAVING leased the extensive Works of the **CAMBRIA IRON COMPANY,** situated at JOHNSTOWN, Cambria Co., Penna., and purchased all their real estate, are now prepared to execute, at short notice, orders for **RAILS** of any required pattern or weight, on the most liberal terms.

PHILADELPHIA OFFICE, NORTH PENNA. R. R. BUILDING, **No. 407 Walnut st.**

THE
RAILROAD IRON MILL COMPANY,
CLEVELAND, OHIO,
MANUFACTURERS EXCLUSIVELY OF
RAILROAD IRON.

THIS is a new ROLLING MILL, having been working only eighteen months, and confined to work for roads on this line between Buffalo and Chicago in re-rolling old Rails. The capacity is Forty Tons per day. It is well situated for receiving old Rails, either by Railroad or Lake.

Orders are now solicited

From Roads in other sections of the country; and work will be made with New Iron in the heads, if desired.

Apply to
ALBERT G. SMITH,
President of the Incorporation.
February, 1858.

RAILROAD IRON.

The Crescent Manufacturing Company,
WHEELING, VA.,

ARE now prepared to execute, at short notice, orders for Rails of any required pattern and weight, and to re-roll old rails, on the most liberal terms. Address

N. WILKINSON, Sec'y,
3tf WHEELING, VA.

JOS. R. ANDERSON,
JOHN F. TANNER,
R. ARCHER,
R. S. ARCHER.

TREDEGAR IRON WORKS,
RICHMOND, VA.

WE CONTINUE TO MANUFACTURE at these old and extensive Works, from BEST CHARCOAL METAL—

BAR IRON OF EVERY SIZE AND SHAPE,
RAILROAD CHAIRS, VARIOUS PATTERNS,
RAILROAD AND SHIP SPIKES,
TRUCK BOLTS AND FISH BARS,
CAR AND TRUCK AXLES,
BRIDGE AND OTHER LONG BOLTS,
IRON TRUCKS,
BOX AND PLATFORM CARS,
RAILROAD WHEELS, EITHER FITTED TO AXLES OR SEPARATE,
CANNON AND PROJECTILES, ALL KINDS,
IRON AND BRASS CASTINGS,
LOCOMOTIVE, STATIONARY AND PORTABLE ENGINES,
SAW AND GRIST MILLS,
SUGAR MILLS AND ENGINES.

Our SPIKE AND BOLT FACTORY, which was destroyed by fire on the 27th April, has been rebuilt on an enlarged scale, and we are now prepared to make 25 tons SPIKES and 5,000 BOLTS per day. Our Customers may now send us their orders with full confidence that they will be always promptly executed.

The Machinery Department of our Establishment is under the supervision of THATCHER PERKINS, Esq., for 13 years the Master of Machinery on the Baltimore and Ohio Railroad, and late of the concern of SMITH & PERKINS, Locomotive Builders, Alexandria, Va.

J. R. ANDERSON & CO.

SANDERSON, BROTHERS & CO.,
MANUFACTURERS OF THE
CELEBRATED CAST STEEL,
FOR MAKING SUPERIOR TOOLS,
SHEFFIELD, ENGLAND.

IMPORTERS OF FILES,
Armitage's Genuine Mousehole Anvils, etc.
16 CLIFF STREET, NEW YORK.

42 BATTERYMARCH ST., Boston. 516 COMMERCE ST., Philadelphia.
84 BANK PLACE, New Orleans. TYLER, DAVIDSON & CO., Cincinnati, O.
HISS & COLE, Baltimore, Md.

THE FARNLEY IRON CO.,
Near LEEDS, Yorkshire,
MANUFACTURERS OF
LOCOMOTIVE TIRES,
TIRE BARS,
BOILER PLATES, ETC.

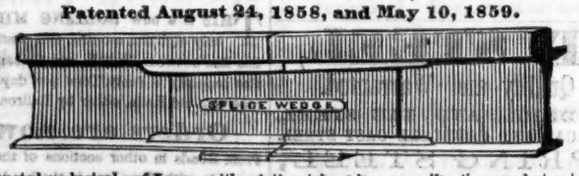
The undersigned are prepared to execute orders for

TIRES,

Manufactured at these celebrated Works,
OF ALL SIZES.
A STOCK CONSTANTLY ON HAND.

The quality of the FARNLEY IRON is precisely the same as that of LOW MOOR and BOWLING, being from the same bed of mineral.
For sale, at manufacturer's prices, by
M. K. JESUP & COMP'Y,
44 Exchange Place, New York,
SOLE AGENTS for the UNITED STATES and CANADAS.

BEERS' 'CAST IRON ENDLESS RAIL,' FOR CITY RAILROAD.
Patented August 24, 1858, and May 10, 1859.



THIS Road is constructed exclusively of Iron, without tie, string-piece or spike (in paved streets), will wear as long as three successive structures of the Philadelphia class of road; thereby saving not less than $1,000, yearly, per mile on repairs and relays, now fully tested. Cost from $6,000 to $8,000 per mile.

ALSO
BEERS' "ELASTIC IRON RAILWAY," FOR LOCOMOTIVE USE.

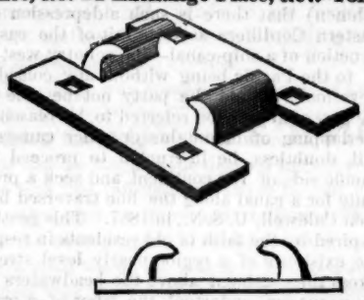
This structure is strictly independent of the action of frost, indestructible in the character of material, and positively free from undulations; saving 50 per cent. on dead weight of train, 60 per cent. on motive power, and 80 per cent. on repairs; thereby reducing the current expenses of maintaining and operating from $1,500 to $2,000 per mile yearly. Cost of track (exclusive of grading) from $9,000 to $11,000; out of which $3,000 will be saved on the first cost of equipment, and character of grading. The undersigned is prepared to construct, either Road, in any part of the United States, South America, or Europe; or will furnish the materials only, for any part of the world. For particulars address

S. A. BEERS, C. E., Brooklyn, N. Y.
A specimen of these Roads may be examined at 55 Liberty st., NEW YORK.

RAILROAD IRON.
WELSH or Staffordshire make, delivered on board at an English port or at a port in the United States.
NORRIS & BROTHER,
6m35 BALTIMORE,
And 17 Nassau st., NEW YORK.

RAILROAD IRON.
500 TONS American Rails, Erie pattern, 56 lbs. per yard, for sale at Chicago, also about
350 Tons English Rails same size and weight.
M. K. JESUP & COMP'Y,
New York, June, 1859. 44 Exchange Place.

NEW YORK
RAILROAD CHAIR WORKS.
J. B. GREEN & CO., Proprietors.
SUCCESSORS TO THE
New York Wrought Iron Railroad Chair Company.
Office, No. 51 Exchange Place, New York.



HAVING recently purchased, at Receiver's Sale, all the Patent Rights owned by the late "NEW YORK WROUGHT IRON RAILROAD CHAIR COMPANY," and also the entire machinery for manufacturing their improved **Wrought Iron Railroad Chair**, we are now fully prepared to receive and fill all orders from responsible parties, to any extent, with promptness and dispatch.

The thickness of the lips of our chair increases through the bend, where the greatest strength is required, and diminishes towards the edge; so that a less weight of metal may be used, and a strength acquired equal, if not superior, to that of a heavier Chair of uniform thickness.

We invite the attention of parties wishing the **best Wrought Iron Chair** now in market, to our works for a supply; believing they combine qualities superior to any others now manufactured.

One great advantage possessed by our Chairs over those that are rolled, is that the lips are turned AGAINST OR ACROSS the fibre of the iron; while the lips of a rolled Chair are turned WITH the fibre—making them liable to break or split as a board.

The Chairs weigh from seven and a-half to fifteen pounds, according to the thickness of the Iron and size of the Chair. To enable us to give you a perfect fit, it will be necessary always to send a section of the Rail properly notched. We cannot undertake to make Chairs without a proper pattern, as it is impossible to make a perfect fitting Chair from a drawing.

Chairs of our manufacture, are used by the following roads, and by over **seventy** others, in every part of the country:—

North Carolina Railroad Company,
New Jersey Central Railroad Company,
Panama Railroad Company,
Buffalo and State Line Railroad Company,
New York and New Haven Railroad Company,
New Orleans, Jackson and Great Northern R. R. Co., etc., etc.

Messrs. **M. K. JESUP & CO., 44 Exchange Place, NEW YORK,** are the only parties authorized to act as our Agents.

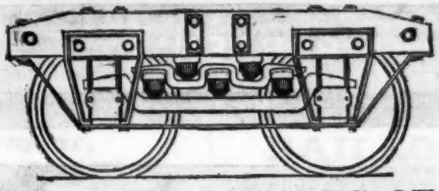
☞ Mr. JACOB ROWE, formerly President of the old Company, has no connection, whatever, with our present organization, nor does he sell chairs of our make.

IRON BOILER FLUES.
LAP-WELDED BOILER FLUES,
1¼ to 7 inches outside diameter, cut to definite length, 2 to 20 feet as required.
Wrought Iron Welded Tubes,
From ⅛ to 5 inches bore, with Screw and Socket Connections. T's, L's, Stops, Valves, Flanges, etc., etc.
MANUFACTURED AND FOR SALE BY
MORRIS, TASKER & CO.,
PASCAL IRON WORKS.
Established 1821.
WAREHOUSE—209 SOUTH THIRD STREET,
PHILADELPHIA.
STEPHEN MORRIS, CHAS. WHEELER, JR.,
THOS. T. TASKER, JR. STEPHEN P. M. TASKER.

RAILROAD IRON
AND COMMON BARS.
THE undersigned, sole Agents to Messrs. GUEST & Co., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, are duly authorized to contract for the sale of their G. L. Railroad Iron, and Common Bars, on most advantageous terms.
R. & J. MAKIN, 70 Broad st.

THE
ROUND OAK IRON WORKS,
STAFFORDSHIRE, ENGLAND.
Lord WARD, Proprietor.
MANUFACTURE RAILS, BOILER PLATES, SHEETS, HOOPS and BARS, of every variety of pattern.
NORRIS & BROTHER,
Agents for the United States,
6m36 12 SOUTH CHARLES STREET, BALTIMORE.
And 17 NASSAU STREET, NEW YORK.

NEW YORK
METALLIC CAR SPRING COMPANY,



SOLE MANUFACTURERS OF THE

CONICAL VOLUTE STEEL CAR SPRING,

OFFICE, 54 WILLIAM ST., NEW YORK.

C. PALMER, Pres't. **CHAS. D. GIBSON,** Treas'r. **RICHARD VOSE,** Sec'y.

JAMES JEFFRIES & SONS,

MANUFACTURERS OF

LOCOMOTIVE, CAR AND TANK

SPRINGS,

PHILADELPHIA, (rear of Girard House.)

REFERENCES.

M. W. BALDWIN & CO., R. NORRIS & SON, A. WHITNEY & SONS, Philadelphia; JOS. R. ANDERSON, Richmond; SMITH & PERKINS, Alexandria, Va.; JNO. EDGAR THOMSON, of Penn. R. R., EDWARD C. DALE, of P., G. & N. R. R.; S. RUTH, of Rich., F. & P. R. R.; THOS. DODAMEAD of Va. Central; URIAH WELLS, Petersburg, H. D. BIRD, South Side R. R., Petersburg; C. O. SANFORD, of Petersburg R. R.; JNO. R. McDANIEL, of Va. & Tenn. R. R.; JAS. P. ROBERTSON, of Wilmington and M. R. R.; HENRY T. PEAKE, of S. C. R. R.; S. S. SOLOMONS, of North East R. R.; JOHN FLYNN, of Western & Atlantic R. R.; E. F. ROWARTH, of Greenville & Col. R. R.; GEO. YONGE, of Georgia R. R.; WM. CLARK, of Muscogee R. R.; W. W. BALDWIN, of Montgomery & W. P. R. R.; WM. M. WADLEY, of N. O., J. & G. N. R. R.; A. B. SEGER, of Opelousas R. R.; C. WILLIAMS, of Vicksburg; ALLEN S. SWEET, of Buffalo and Erie R. R.; F. C. ARMS, of Memphis; H. COFFIN, of Memphis; A. WORREL, of Seaboard & R. R. R.; UNION CAR WORKS, Portsmouth; WM. M. HIGHT, of Augusta; S. & R. H. RIKERS, WHARTON & PATSCH, Charleston, and all **Roads** where our **SPRINGS** are in use.

Will be happy to furnish a **SET OF SPRINGS** to such companies as may wish to **try** their **Durability** and **Elasticity**, by writing us the Length, Width, Curve over all, and the weight which they are to bear.

ELASTIC CONE SPRING CO.,

OFFICES { **20 Exchange Place, New York,** and **Jersey City, New Jersey.**

MANUFACTURERS of the **PATENT ELASTIC CONE SPRINGS** for Railway Cars. This Spring is new, and simple in its construction, and possesses superior advantages. It is manufactured from the best quality of India Rubber prepared under the JOSLIN Patent, and is less expensive, and at the same time affords more ease, than other shaped springs. It can be fitted to all descriptions of cars without alteration or expense.

Patent Reversible Baggage Check.

STEEL
CAR SPRINGS,

MANUFACTURED

BY THE

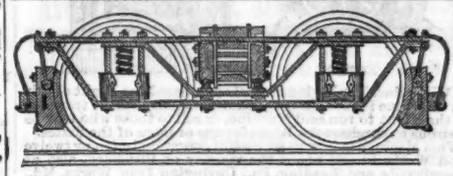
PATENTEE,

CARLOS FRENCH,

SEYMOUR, CONN.

THESE **SPRINGS** are now in use on many of the **leading Railroads** East, South and West.

Samples can be examined and Price Lists obtained at **No. 5 Gold st., NEW YORK.**



THE HUMPHREYSVILLE
MANUFACTURING COMPANY,

(SUCCESSORS TO DWIGHTS, FRENCH & CO.)

SEYMOUR, CONN.,

ARE prepared to fill, at short notice, of the best materials and workmanship, orders for **Wrought** and **Cast Iron Work**, fitted ready for use, for the building or repairs of **Passenger** and **Freight Cars**, complete or in part.

A sample wrought iron truck can be seen at our office.

No. 5 Gold st., NEW YORK.

We also manufacture—

BEST FAGGOTTED CAR AXLES,
SALISBURY IRON CAR WHEELS,
WROUGHT IRON BOLTS, NUTS AND WASHERS,
RAILROAD JACK SCREWS, ETC.

RAYMOND FRENCH, President, Seymour, Conn.
WM. H. MARSHALL, Treasurer, No. 5 Gold st., N.Y.

SAFEGUARD
INSURANCE COMPANY.

OFFICE { **12 Wall st., NEW YORK,** **409 Walnut st., PHILADELPHIA.**

CAPITAL, $200,000.

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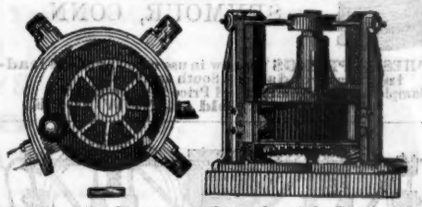
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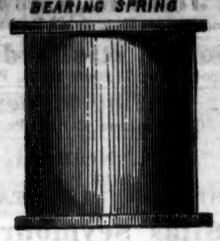

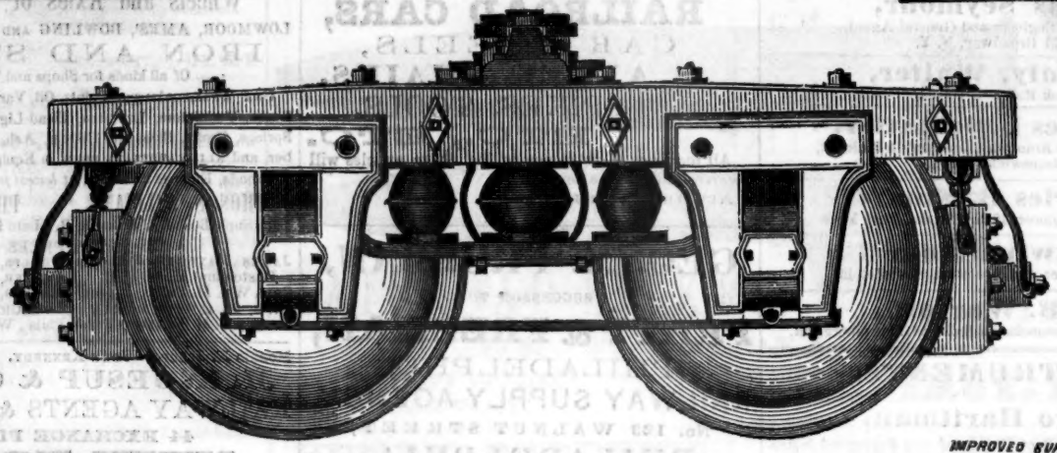

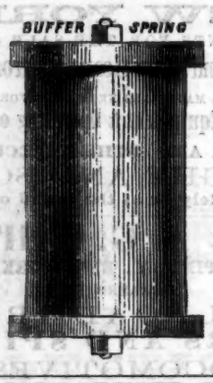

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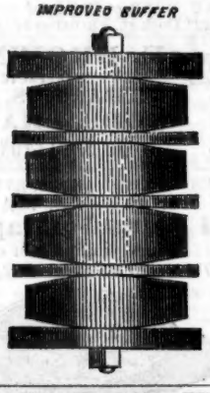

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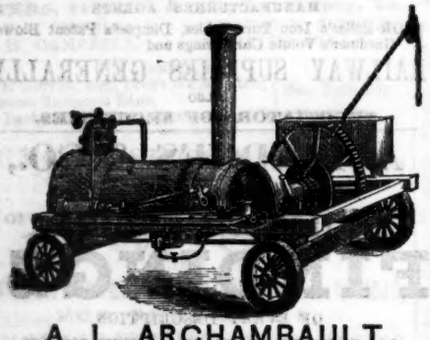

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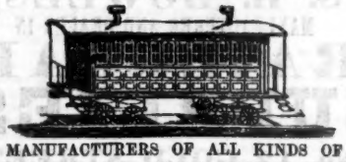

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